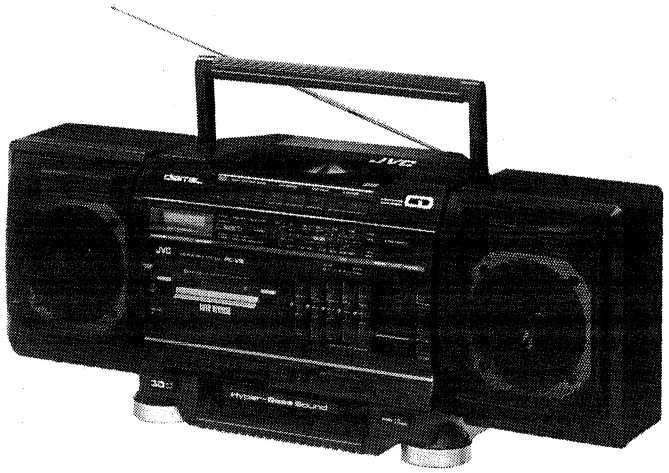
JVC

SERVICE MANUAL

CD PORTABLE SYSTEM

MODEL PC-V2 J



COMPACT disc DIGITAL AUDIO

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
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- **An instruction booklet is provided with this manual**

Contents

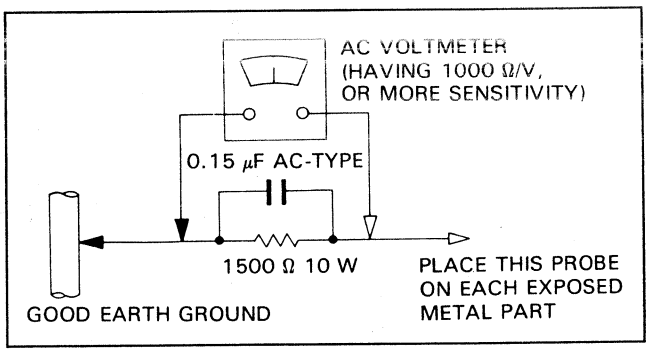
No. 1724
March 1987

1 Safety Precautions

1. The design of this product contains special hardware. Many circuits and components specially for safety purposes.
   For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. Electrical components having such features are identified by (⚠) on the schematics and parts list in Service manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list in Service manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and/or the like to be separated from live parts, high temperature part, moving parts and/or sharp edges for the prevention of electric shock and fire hazard.
   When service is required, the original lead routing and dress should be observed, and they should be confirmed to be returned to normal, after re-assembling.
5. Leakage current check
   (Safety for electrical shock hazard)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the Products (antenna terminals, knobs, metal cabinet, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

Do not use a line isolation transformer during this check.

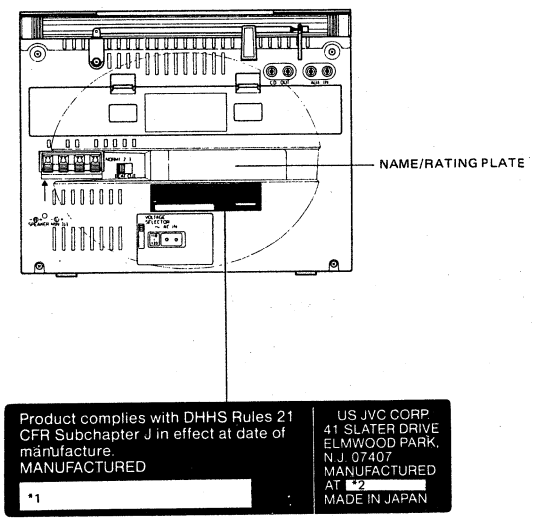
- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5 mA AC (r.m.s.).
- Alternate check method.
  Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1500 Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.)
  Measure the AC voltage across the resistor with the AC voltmeter.
  Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.).
  This corresponds to 0.5 mA AC (r.m.s.).



Important for Laser Products (For U.S.A. only)

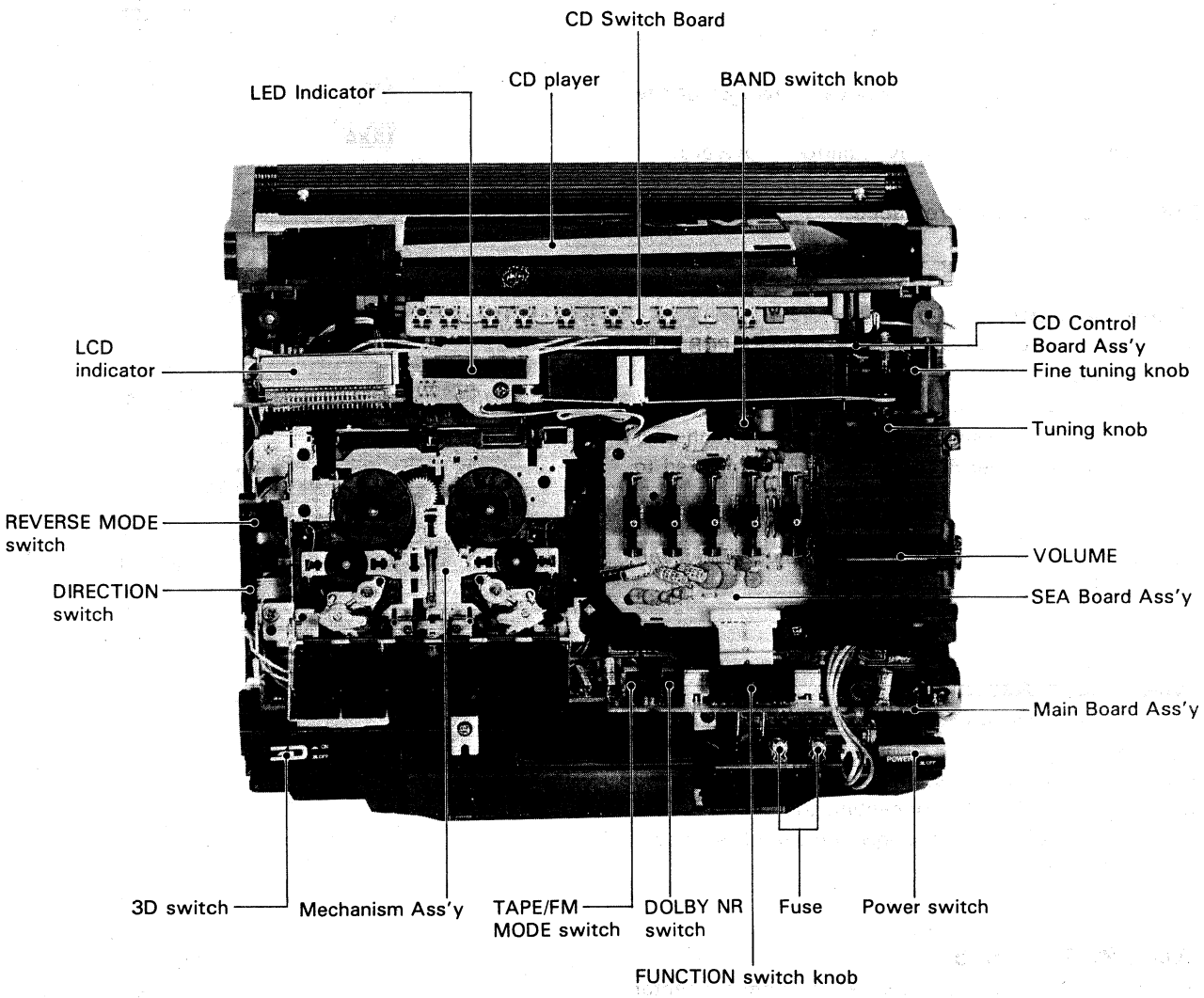
1. CLASS 1 LASER PRODUCT
2. DANGER: Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. CAUTION: Do not open the bottom cover. There are no user serviceable parts inside the unit; leave all servicing to qualified service personnel.
4. CAUTION: The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the disc holder is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.
5. CAUTION: Use of controls of adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
6. CAUTION: The laser is able to function, if safety switches are out of function. The laser light is invisible, avoid exposure, do not disassemble the laser unit, but replace the complete unit.

Identification Label and Certification Label



Notes:
*1 The date of manufacture.
*2 The ID code of manufacturing plant.

2 Location of Main Parts



3 Removal of Main Parts

*** To replace the antenna, remove the screw Ⓐ.**

■ Front Cover

1. Remove four screws ① retaining the cover from the back.
2. Remove the battery cover to remove screw ② at the center.
3. Remove the front cover by pulling it forward.

* The fuse can now be replaced.

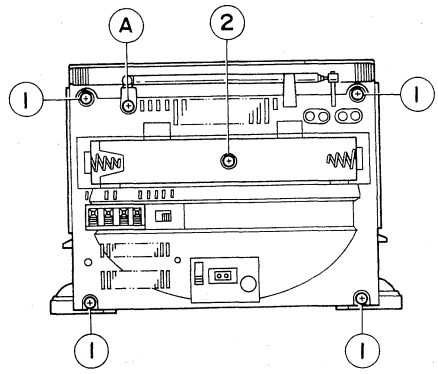


Fig. 3-1

■ Tuner Assembly

1. Remove wire (CN 304) connected to the SEA PCB from the main PCB.
2. Remove screw ③ holding the tuner chassis.
3. Pull out the tuner assembly gently to remove connector (CN 1) from the tuner PCB and the wire connected to TP 1.

* The CD assembly can also be removed by pulling it forward in this condition.

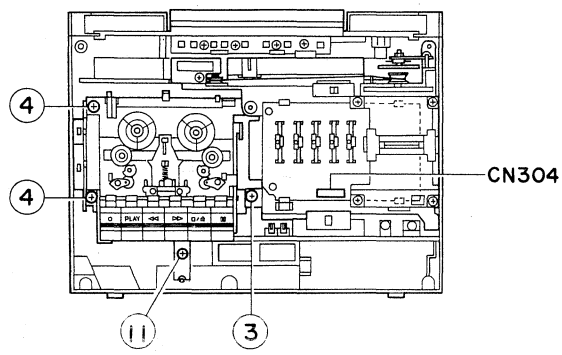


Fig. 3-2

■ Mechansim Assembly

1. Remove two screws ④ holding the mechanism assembly.
2. Pull out the mechanism assembly gently to remove head wire connector (CN 301) connecting it to the main PCB.
3. Remove the motor power supply and switch wire connector (CN 302).

■ Main PCB Assembly

1. Pull out the CD unit to remove the wire from connector CN603 on the CD control board.
2. Remove screw ⑪ holding the PCB holder.
3. Remove two screws ⑫ holding the duct.
4. Remove the power supply wires from connector CN701 on the power supply PCB.
5. Remove connector CN303 on the main PCB.
6. Remove two screws ⑤ holding the jack PCB to the duct. (Remove only when necessary.)

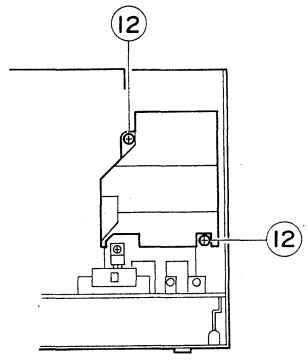


Fig. 3-3

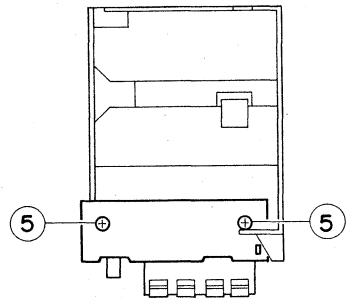


Fig. 3-4

■ 3-D Speaker Assembly

Remove eight screws (6) and (7) holding the 3-D speaker assembly.

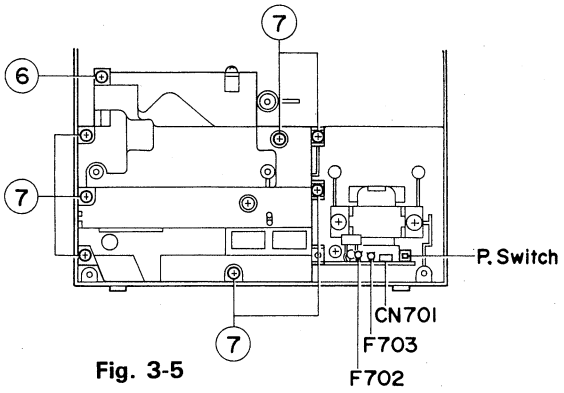


Fig. 3-5

■ Power Source Assembly

1. Remove two screws (8) retaining the transformer.
2. Remove two screws (9) holding the jack bracket.

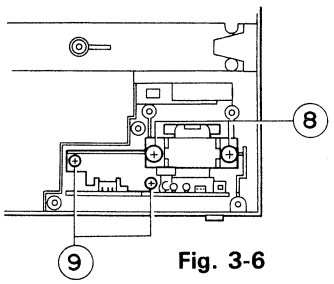


Fig. 3-6

■ PCB Assembly

Volume/SEA PCB assembly

1. Remove the tuner assembly.
2. Remove four screws (21) holding the volume slider.
3. Remove four claws (22) holding the PCB.

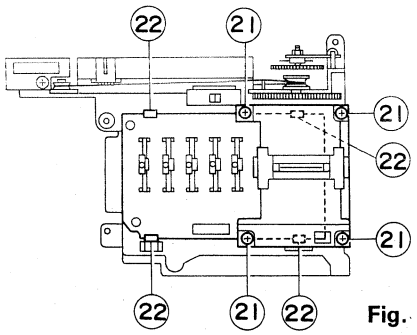


Fig. 3-7

Tuner PCB assembly

1. Remove the tuner assembly.
2. Remove screw (23) holding the band switch lever.
3. Remove the PCB gently.
   (**Note:** Do not rotate the dial drum and variable capacitor when they do not need to be repaired since this will make engagement difficult when assembling.)

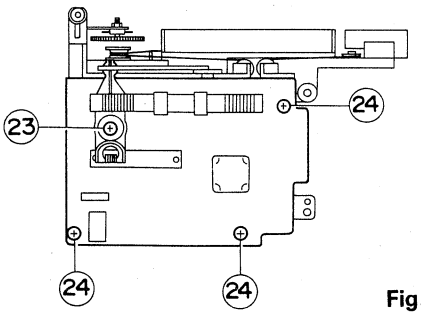


Fig. 3-8

CD control PCB assembly

1. Remove four screws (25) holding the PCB.
2. Remove the connector on the PCB.
3. When removing the CD mechanism, remove four screws (26).

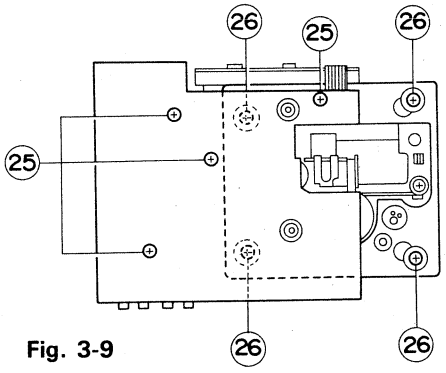


Fig. 3-9

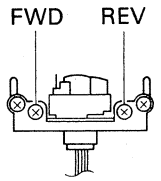
4 Main Adjustment

■ Amplifier Adjustments

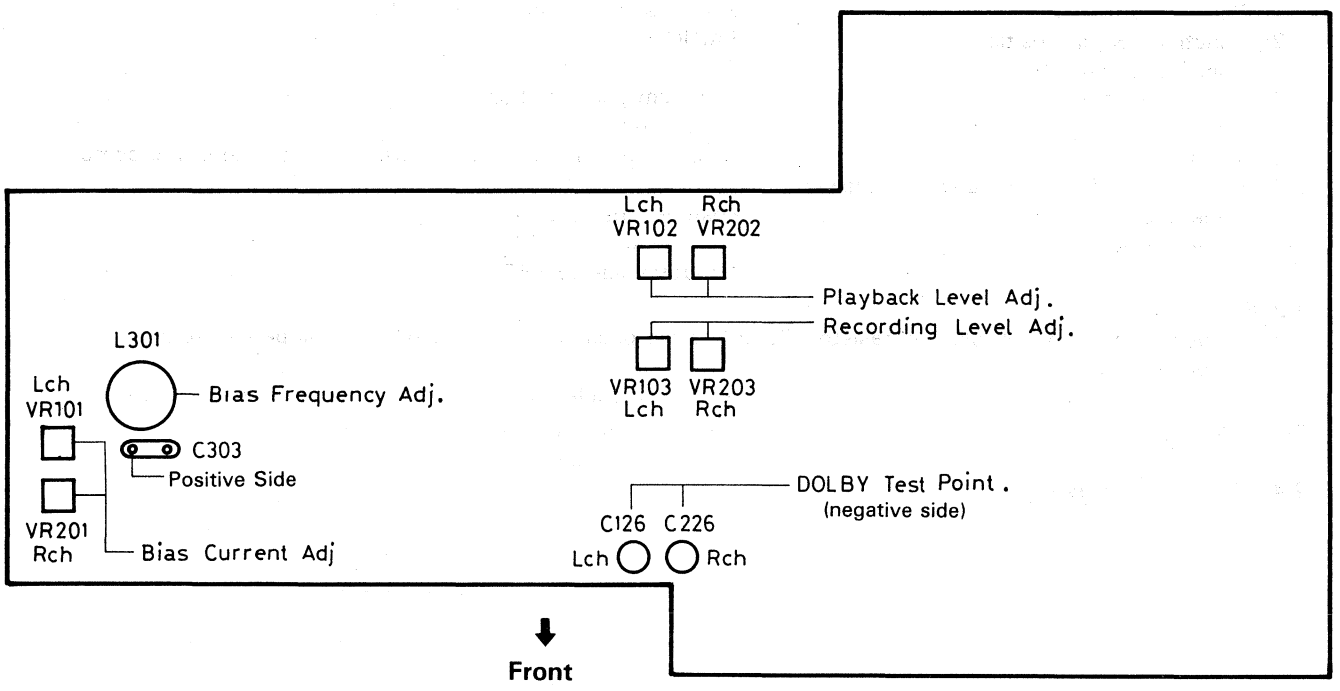
Conditions

Power supply voltages : DC 12 V
Input levels : AUX IN −8 dBm
MIX −60 dBm
Output levels : Speaker 0 dBm/3 Ω
hones 0 dBm/32 Ω
CD OUT 1.3 V/47 kΩ

SEA controls : Center
Tape select : Normal
Tapes used : Recording normal tape TS-8 (UD)
chrome tape TS-6
metal tape TS-7

Item	Tape used	Adjustment/check method	Switch setting	Adjustment location
Head azimuth adjustment	VTT703 10 kHz	Maximize outputs, and adjust to minimize phase difference between left and right channels.	NORM position	
Checking tape speed	VTT712 (3 kHz)	3000 Hz within (2940 ~ 3090) Hz	NORM position NR switch : Off	——
Checking Wow/Flutter	VTT712 (3 kHz)	0.45% (JIS UN WTD)	NORM position NR switch : Off	——
Playback output level	VT724 (1 kHz)	Adjust VR102 so that the output TP (DOLBY test point) are −21 dB.	NORM position NR switch : Off	L : VR102 R : VR202
Confirming playback frequency characteristics	VTT739 { 1 kHz 63 Hz 10 kHz }	With respect to their output at 1 kHz, the output at TP (DOLBY test point) should be −4 dB ± 4 dB at 63 Hz, and 0 dB ± 3 dB at 10 kHz.		——
Recording bias frequency	Normal tape	Set beat cut switch (S306) to position 1 and adjust the oscilloating frequency of C303 to 58 kHz ± 2 kHz with L301. (Connect a 100 Ω resistor in series when measuring.)	S306 (Beat cut switch) 1 position	L301
Rec/Play frequency characteristics	Normal tape	Adjust VR101 (L ch) and VR201 (R ch) so that the rec/play output of an input signal −20 dB with respect to the reference level at 1 kHz is −0.5 dB ±1 dB at 10 kHz. (Measure outputs from TP (DOLBY test point.))	NORM position	L : VR101 R : VR201
Rec/Play output adjustment	Normal tape	Adjust VR103 (L ch) and VR203 (R ch) so that the Level when recording and playing back an AUX IN signal −8 dBm with respect to the reference level (−8 dBm) −0.5 dBm ± 1 dB.		L: VR103 R : VR203

Adjustment Locations

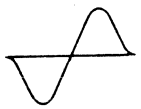


■ Tuner Alignment

BASIC CONDITIONS

POWER SOURCE OF THE RECEIVER	DC 12 V, AC 220~240/110~120 V (J), AC 120 V (C)
LOAD RESISTANCE OF THE RECEIVER	50 mW (0.39 V)/3 Ω
MODULATION OF SSG	400 Hz. 30%

Item	Description
1. AM IF ALIGNMENT	
1-1 Conditions of the receiver.	
(1) Power source:	DC 5.3 V (When the power is supplied directly to the tuner in the receiver, the voltage should be adjusted to the proper level which shall be required by the tuner.)
(2) Function switch position:	RADIO
(3) Band select switch:	AM
(4) Volume control:	Minimum gain position
(5) SEA control:	Center position
(6) Variable capacitor:	Near the minimum capacity position where no signal come in.
1-2 Connection of Sweeper and the receiver	
(1) Tuner input:	Positive side to TP3 positive side
(2) Tuner output:	Positive side to TP6 Negative side to TP7]
1-3 Aligning position:	CFT/T2
1-4 Alignment (Waveform): 	Adjust AM I.F.T. (above mentioned aligning position) so that maximum and symmetrical wave form can be obtained. In this case, the wavehead should be appeared at the center marker (450 kHz) on the scope of Sweeper.

Item	Description
2. FM IF ALIGNMENT	
2-1 Conditions of the receiver	
(1) Power source:	Same as mentioned in item 1-1
(2) Function switch position:	RADIO
(3) Band select switch:	FM
(4) Volume control:	Minimum gain position
(5) SEA control:	Center position
(6) Variable capacitor:	Near the minimum capacity position where no signal come in.
2-2 Connection of Sweeper and the receiver	
(1) Tuner input:	Positive side to TP5
(2) Tuner output:	Positive side to TP6 Negative side to TP7
NOTE a) Attach a capacitor (30 pF) and resistor (30 kΩ) to the positive side cable which shall be led from Sweeper input. b) Attach a resistor (100 kΩ) in series to the positive side cable which shall be led from Sweeper output.	
2-3 Aligning position:	Discriminate Waveform: T2 ("S" curve waveform)
2-4 Alignment (Waveform):	
Discriminate Waveform:	Adjust the discriminate T2 so that above symmetrical IF waveform may be changed to balanced "S" curve waveform.
3. AM RF ALIGNMENT	
3-1 Conditions of the receiver.	
(1) Power source:	Same as mentioned in item 1-1.
(2) Function switch position:	RADIO
(3) Volume control:	50 mW
(4) SEA control:	Center position
(5) Variable capacitor:	Refer the following list shown in item 3-4.
3-2 Conditions of SSG.	
(1) Modulation:	Refer the basic condition
(2) Frequency:	Refer the following list shown in item 3-4.
(3) Output level of the attenuator in SSG:	Approx. 50 mW
3-3 Power output measuring position:	Speaker terminals
3-4 Alignment:	

	Band Select Switch Position	Sort of Antenna to be attached to SSG	Frequency of SSG	Variable Capacitor Position	Aligning Position
1	AM	Loop Antenna	520 kHz	Max. capacity	L3
2			1,650 kHz	Min. capacity	TC-3
3			Adjust the above aligning position (L3 & TC-3) repeatedly so that the tuner can be received above frequency range (band width).		
4			600 kHz	to be received 600 kHz	L4
5			1,400 kHz	to be received 1,400 kHz	TC-4
6			Adjust the above aligning position (L4 & TC-4) repeatedly so that the tuner can be obtained the best sensitivity.		

	Band Select Switch Position	Sort of Antenna to be attached to SSG	Frequency of SSG	Variable Capacitor Position	Aligning Position
7	SW1	Loop Antenna	2.2 MHz	Max. capacity	L5
8			7.3 MHz	Min. capacity	TC-5
9			Adjust the above aligning position (L5 & TC-5) repeatedly so that the tuner can be received above frequency range (band width).		
10			2.3 MHz	to be received 2.3 MHz	L6
11			7.0 MHz	to be received 7.0 MHz	TC-6
12			Adjust the above aligning position (L6 & TC-6) repeatedly so that the tuner can be obtained the best sensitivity.		
13	SW2	Dummy Antenna	6.8 MHz	Max. capacity	L7
14			23 MHz	Min. capacity	TC-7
15			Adjust the above aligning position (L7 & TC-7) repeatedly so that the tuner can be received above frequency range (band width).		
16			7.0 MHz	to be received 7.0 MHz	L8
17			22.0 MHz	to be received 22.0 MHz	TC-8
18			Adjust the above aligning position (L8 & TC-8) repeatedly so that the tuner can be obtained the best sensitivity.		

Item	Description
4. FM RF ALIGNMENT	
4-1 Conditions of the receiver.	
(1) Power source:	Same as mentioned in item 1-1.
(2) Function switch position:	RADIO
(3) Band select switch:	FM
(4) Volume control:	50 mW
(5) SEA control:	Center position
(6) Variable capacitor:	Refer the following list shown in item 4-3.
4-2 Condition of FM SSG.	
(1) Modulation:	Refer the basic condition
(2) Frequency:	Refer the following list shown in item 4-3.
(3) Output level of the attenuator in FM SSG:	The level shall be decided by the load resistance of the receiver mentioned in the basic conditions.
4-3 Alignment:	

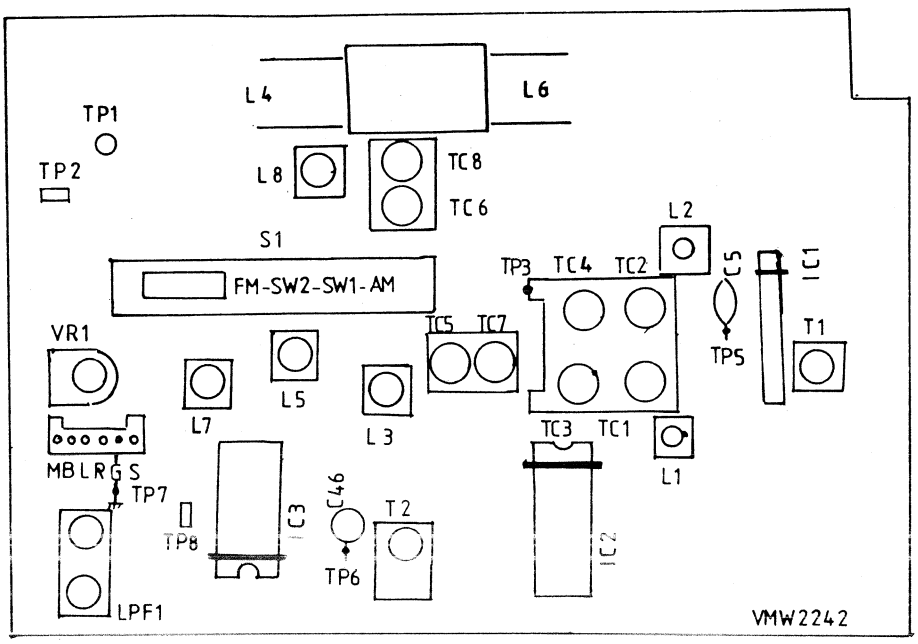
	Band Select Switch Position	Sort of Antenna to be attached to SSG	Frequency of SSG	Variable Capacitor Position	Aligning Position
1	FM	Dummy Antenna	87.5 MHz	Max. capacity	L1
2			109.0 MHz	Min. capacity	TC-1
3			Ajust the above aligning position (L1 & TC-1) repeatedly so that the tuner can be received above frequency range (band width).		
4			90 MHz	to be received 90 MHz	L2
5			106 MHz	to be received 106 MHz	TC-2
6			Adjust the above aligning position (L2 & TC-2) repeatedly so that the tuner can be obtained the best sensitivity.		

■ FM MPX Alignment

19 kHz Alignment

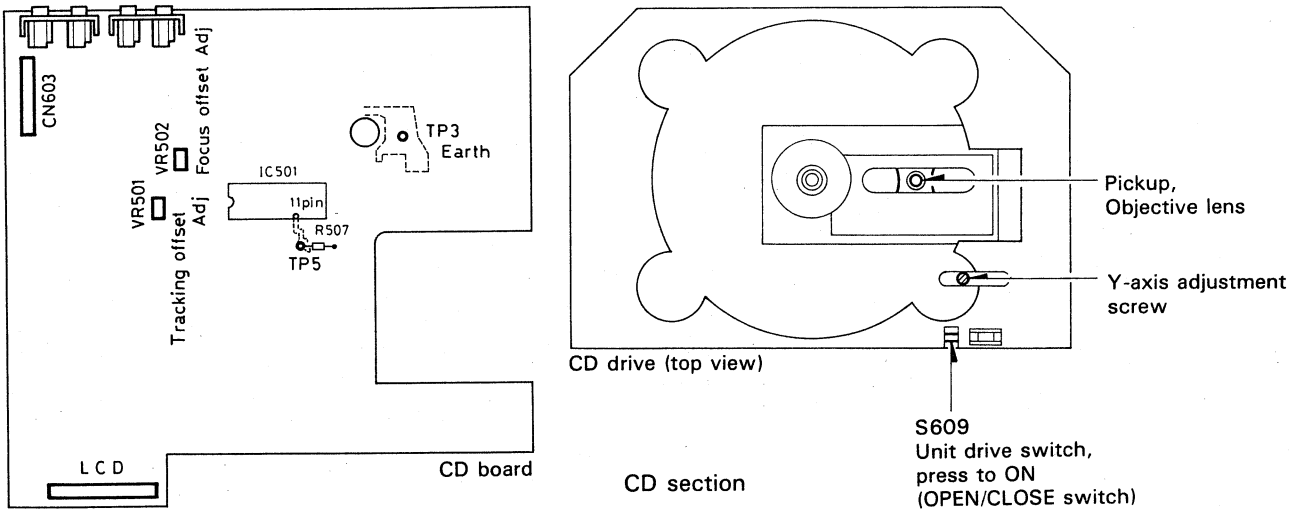
1. Connect a frequency counter through 100 kΩ resistor to the test point TP8 (earth = TP7).
2. Supply the monaural signal (98 MHz, 60 dB) across the test points TP1 and TP2 (earth side).
3. Adjust the variable resistor VR1 so that the frequency becomes 19 kHz ± 100 Hz.

Parts Arrangement for Alignment



Tuner Section

■ CD Unit Condition



This means the unit condition when the CD mechanism (EXL-P1C) and CD PCB (VMW1155) are assembleld in the CD molded chassis.

Servicing should be done in this condition.

(1) When using a stabilized DC power source, connect the GNDs of CN603 ② and ⑥ to each other.
(2) The load impedance of the audio output is 27 kΩ. The AUX IN input can also be monitored.
(3) Remove the magnet clamper before loading a disc.
(4) Set the OPEN/CLOSE SW (leaf switch S609) to ON; the unit will start reading the TOC.

Maintenance of CD Pickup

(1) Checking the service life of the laser diode

a. Load a disc and switch on the power.
b. Press the PLAY button (S601) to play a tune.
c. Measure the RF output with an oscilloscope. If it is below 0.6 Vp-p, wipe the objective lens with a cotton swab. Measure again, and if the output is still below 0.6 Vp-p, the laser is no longer usable so replace as specified.
d. If the RF output is more than specified, measure the voltages at the ends of R003 (10 Ω) on the pickup unit PCB. If it is more than 1.2 V, it is also considered that the life of the laser diode has been exceeded, so replace the pickup.
   o Judge from items c and d.

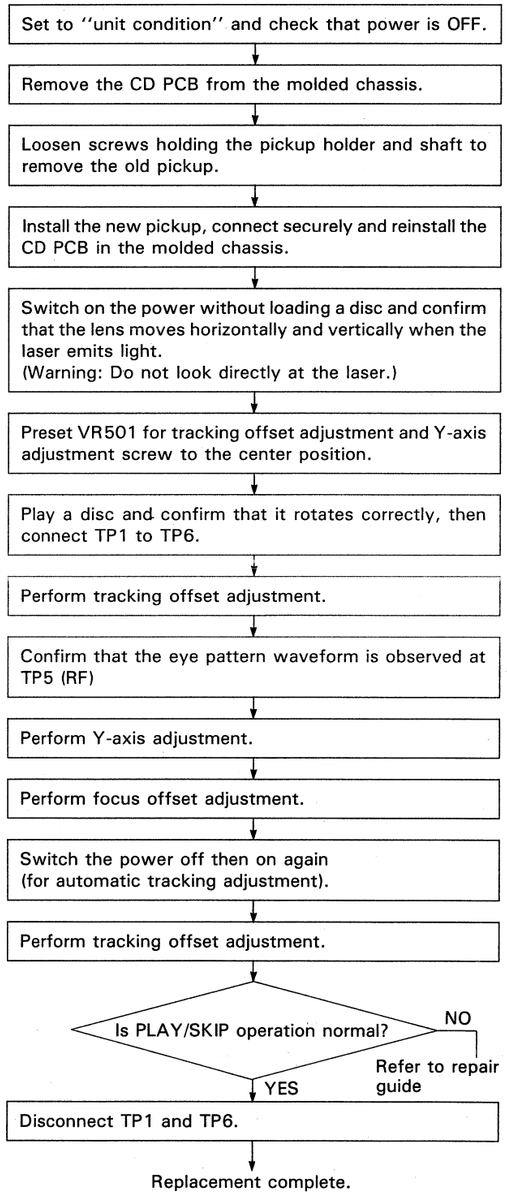
(2) Semi-fixed resistor on APC PCB

The semi-fixed resistor on the APC PCB assembled in the pickup is for adjustment of the laser power.
This should be adjusted together with the characteristics of the optical block, therefore never touch the semi-fixed resistor.
If the laser power is low, the useful life of the laser has been exceeded so replace the pickup. When the normal semi-fixed resistor is turned, it could damage the pickup due to overcurrent.

(3) Grating adjustment

It is best to adjust the grating independently.
If the adjustment drifts, it may become impossible to play discs as the laser goes to the wrong track.

Pickup replacement



Adjustment Methods

(1) Y-axis adjustment

Instruments

Oscilloscope, screwdriver, normal disc

Adjustment procedure

(1) Connect the oscilloscope between TP5 (RF) and TP3 (VREF).
(2) Play the disc. (The Y-axis adjustment screw can be adjusted while track 1 is playing.)
(3) Turn the Y-axis adjustment screw on the base of the pickup so that the amplitude of the RF signal (eye pattern on oscilloscope) is maximum and the waveform is clearest.

(2) Focus offset adjustment

Instruments

Oscilloscope, normal disc

Adjustment procedure

(1) Connect the oscilloscope between TP5 (RF) and TP3 (VREF).
(2) Play the disc.
(3) Adjust VR502 so that the amplitude of the RF signal (the eye pattern on the oscilloscope) is maximum and the waveform is clearest.
(4) If the amplitude of the waveform does not vary throughout the variable range of the VR, set it back to the center position.

(3) Tracking offset adjustment

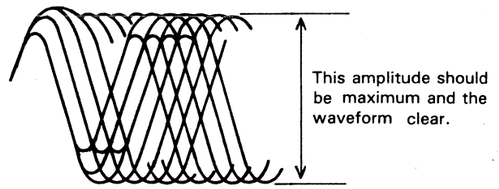
Instruments

Oscilloscope, normal disc

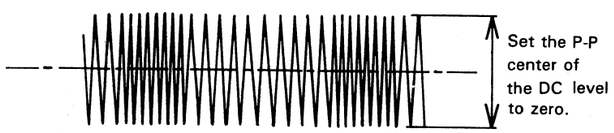
Adjustment procedure

(1) Connect the oscilloscope between TP2 (TE) and TP3 (VREF).
(2) Play the disc.
(3) Short circuit between TP4 and TP3.
(4) Adjust VR501 so that the DC level of the tracking error signal (oscilloscope waveform) becomes zero.
Note: Adjust VR501 so that the waveform is vertically symmetrical about the zero level. Use a direct coupling oscilloscope input.

Eye pattern waveform

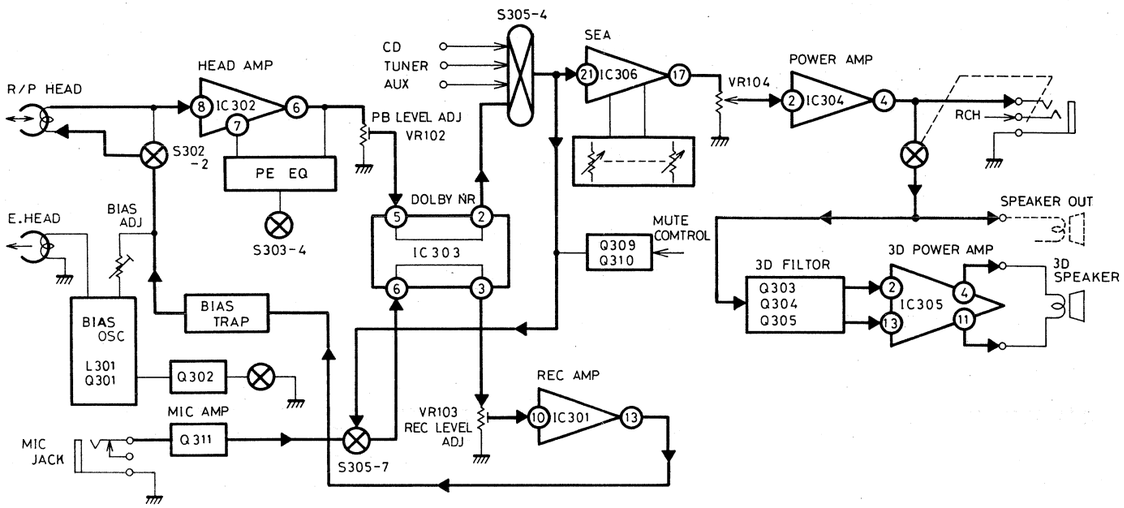


Tracking offset waveform

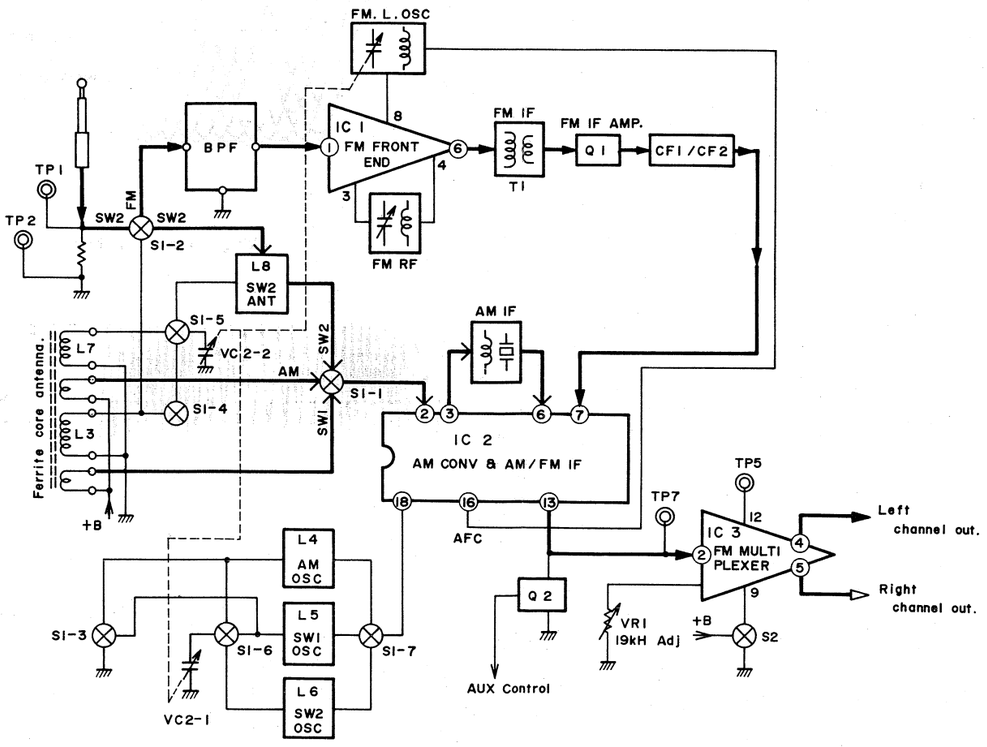


5 Block Diagram

Amplifier Section

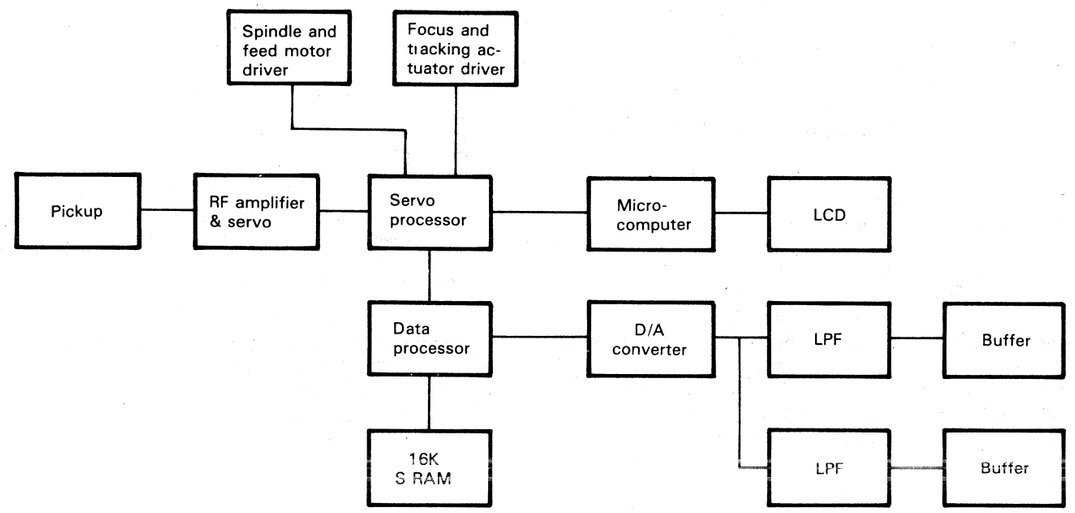


Tuner Section

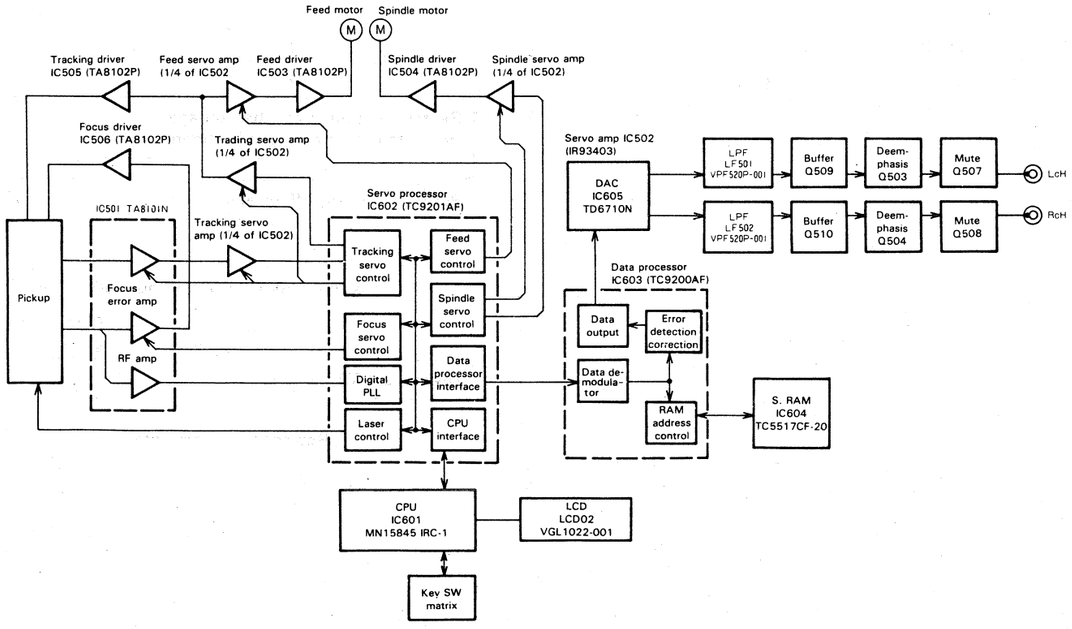


CD Section

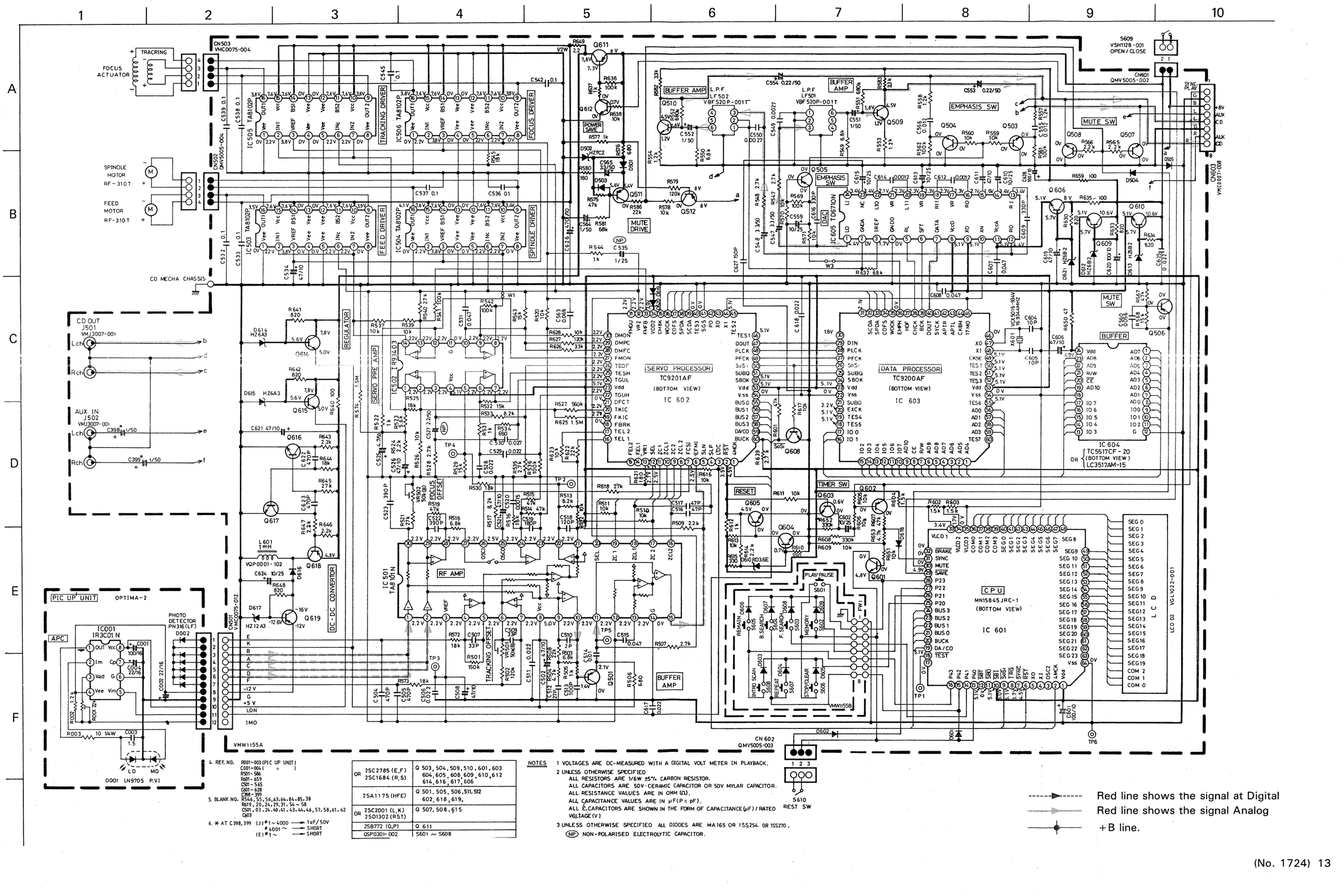
CD control basic block diagram



CD control block diagram



6 Standard Schematic Diagram (CD Control Circuit)



4. REF. NO. R001~003 (PIC UP UNIT)
C001~004 (")
R501~586
R601~659
C501~565
C601~628
C398~399
5. BLANK NO. R546, 55, 56, 63, 64, 84, 85, 38
R619, 20, 24, 29, 31, 54~58
C501, 03, 24, 40, 41, 43, 44, 46, 57, 58, 61, 62
C603
6. * AT C398, 399 (J) #1~4000 → 1uF/50V
#4001~ → SHORT
(E) #1~ → SHORT

OR	2SC2785 (E,F) 2SC1684 (R,S)	Q 503, 504, 509, 510, 601, 603 604, 605, 608, 609, 610, 612 614, 616, 617, 606
	2SA1175 (HFE)	Q 501, 505, 506, 511, 512 602, 618, 619,
OR	2SC2001 (L,K) 2SD1302 (RST)	Q 507, 508, 615
	2SB772 (Q,P)	Q 611
	QSP0301-002	S601 ~ S608

NOTES
1 VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER IN PLAYBACK.
2 UNLESS OTHERWISE SPECIFIED
ALL RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
ALL CAPACITORS ARE 50V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.
ALL RESISTANCE VALUES ARE IN OHM (Ω).
ALL CAPACITANCE VALUES ARE IN μF(P = pF).
ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF) / RATED VOLTAGE(V)
3 UNLESS OTHERWISE SPECIFIED ALL DIODES ARE MA165 OR 1SS254 OR 1SS270.
(NP) NON-POLARISED ELECTROLYTIC CAPACITOR.

Red line shows the signal at Digital
Red line shows the signal Analog
+B line.

(Tuner Circuit)

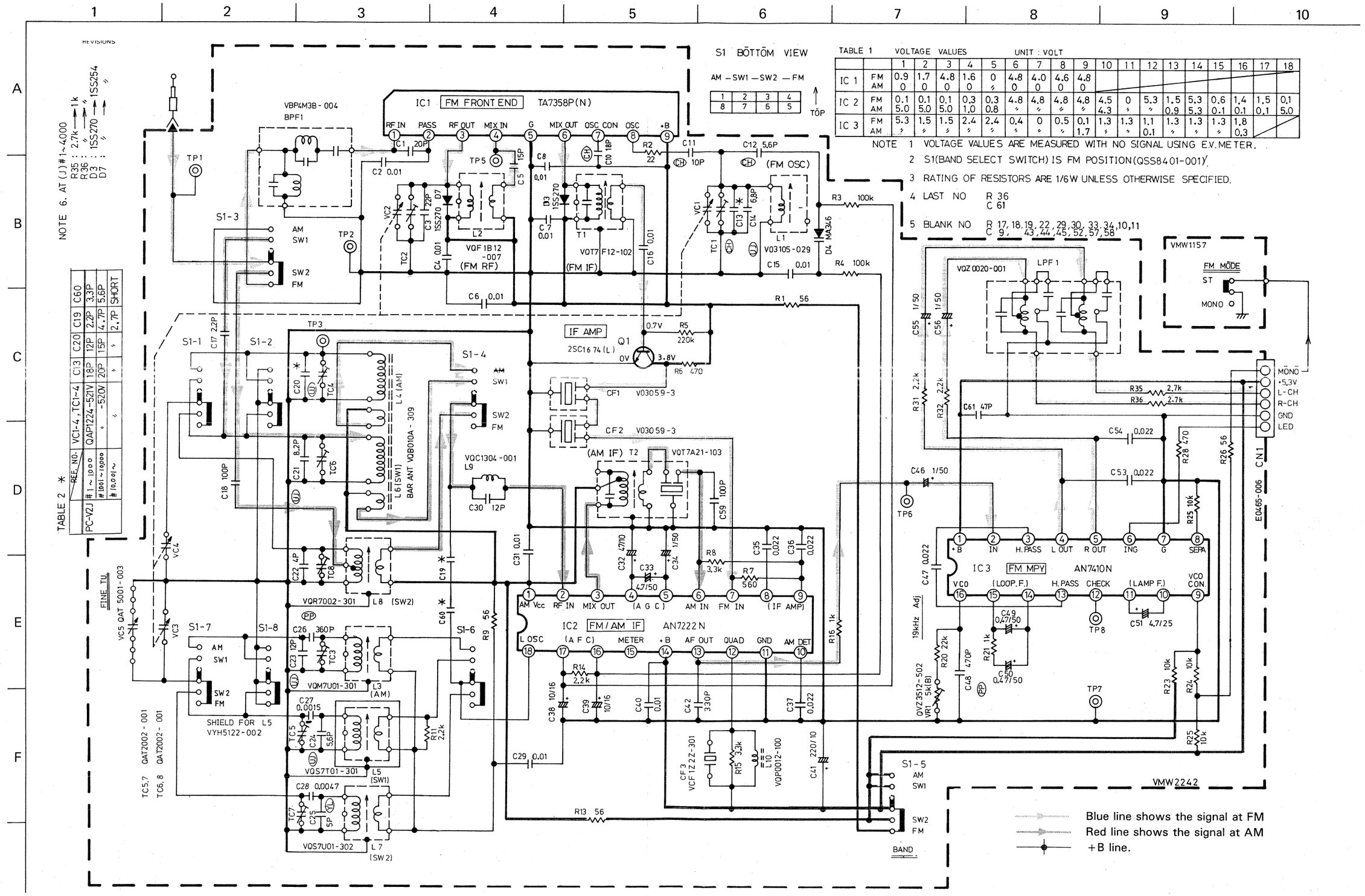


TABLE 1 VOLTAGE VALUES UNIT : VOLT

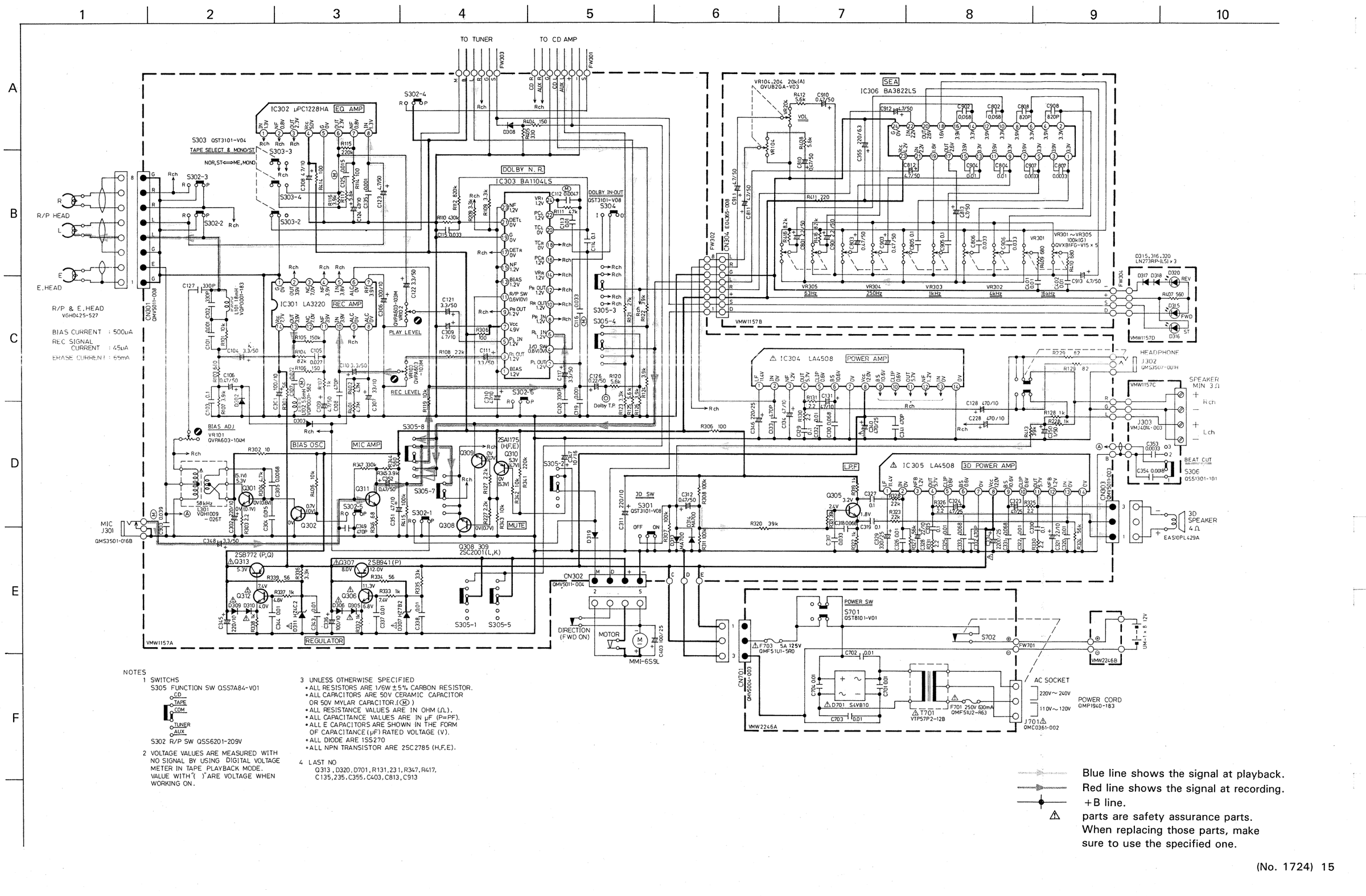
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
IC 1	FM	0.9	1.7	4.8	1.6	0	4.8	4.0	4.6	4.8									
	AM	0	0	0	0	〃	0	0	0	0									
IC 2	FM	0.1	0.1	0.1	0.3	0.3	4.8	4.8	4.8	4.8	4.5	0	5.3	1.5	5.3	0.6	1.4	1.5	0.1
	AM	5.0	5.0	5.0	1.0	0.8	〃	〃	〃	〃	4.3	〃	〃	0.9	5.3	0.1	0.1	0.1	5.0
IC 3	FM	5.3	1.5	1.5	2.4	2.4	0.4	0	0.5	0.1	1.3	1.3	1.1	1.3	1.3	1.3	1.8		
	AM	〃	〃	〃	〃	〃	〃	〃	〃	1.7	〃	〃	0.1	〃	〃	〃	0.3		

NOTE 1 VOLTAGE VALUES ARE MEASURED WITH NO SIGNAL USING E.V.METER.
2 S1(BAND SELECT SWITCH) IS FM POSITION(QSS8401-001).
3 RATING OF RESISTORS ARE 1/6W UNLESS OTHERWISE SPECIFIED.
4 LAST NO R 36, C 61
5 BLANK NO R 17,18,19,22,29,30,33,34,10,11, C 9, 43,44,45,52,57,58

TABLE 2 *

REF. NO.	C13	C20	C19	C60
PC-V2J # 1~1000	VC1-4, TC1-4	18P	2.2P	3.3P
# 1001~10000	QAP1224-521V	12P	1.5P	4.7P
# 10001~	〃 -520V	20P	〃	5.6P
	〃	〃	2.7P	SHORT

(Amplifier Circuit)



NOTES

1 SWITCHES
S305 FUNCTION SW QSS7A84-V01
CD
TAPE
COM
TUNER
AUX
S302 R/P SW QSS6201-209V

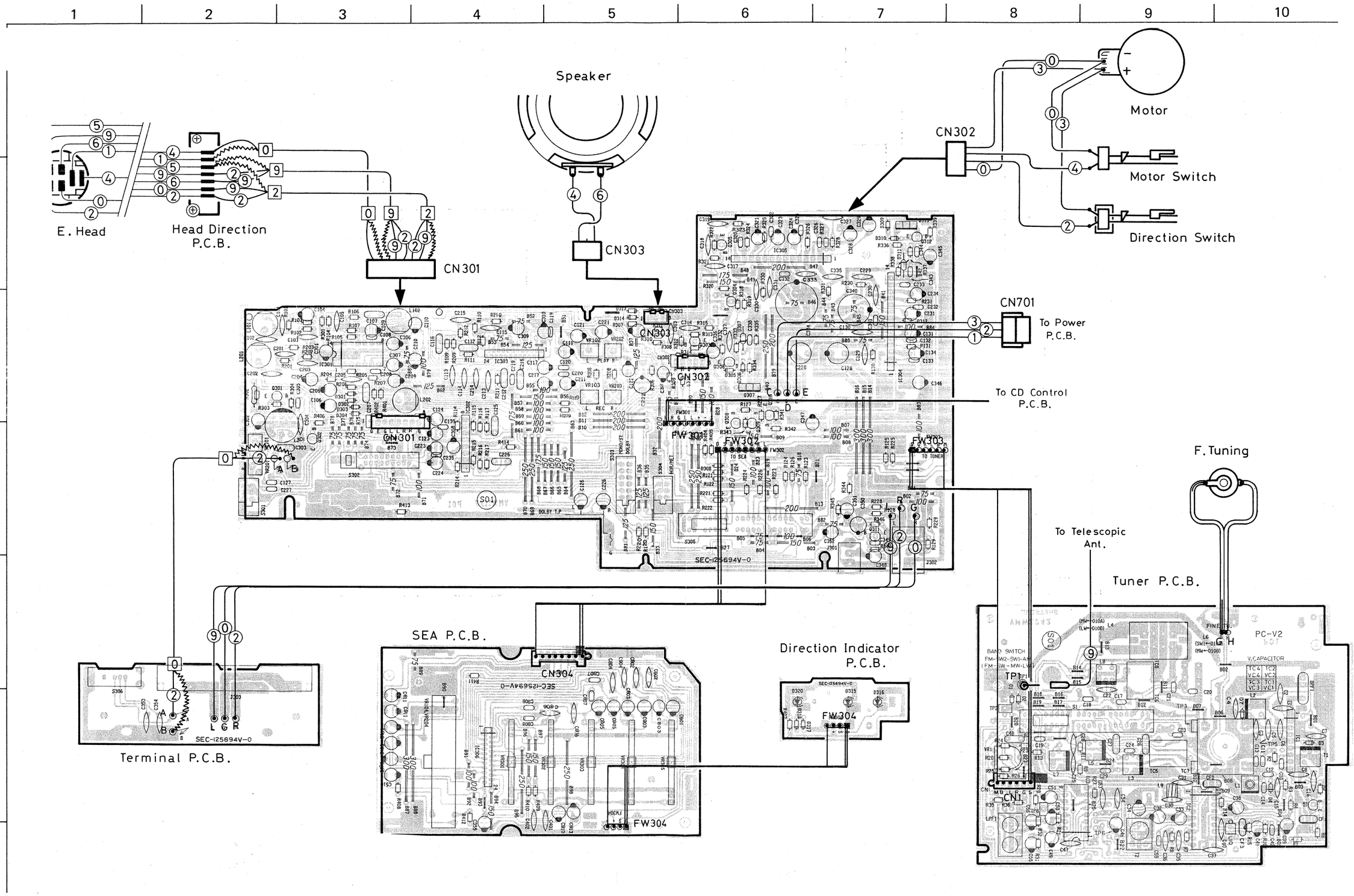
2 VOLTAGE VALUES ARE MEASURED WITH NO SIGNAL BY USING DIGITAL VOLTAGE METER IN TAPE PLAYBACK MODE. VALUE WITH"( )"ARE VOLTAGE WHEN WORKING ON.

3 UNLESS OTHERWISE SPECIFIED
- ALL RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
- ALL CAPACITORS ARE 50V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.(Ⓜ)
- ALL RESISTANCE VALUES ARE IN OHM (Ω).
- ALL CAPACITANCE VALUES ARE IN μF (P=PF).
- ALL E CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF) RATED VOLTAGE (V).
- ALL DIODE ARE 1SS270
- ALL NPN TRANSISTOR ARE 2SC2785 (H,F,E).

4 LAST NO
Q313,D320,D701,R131,231,R347,R417, C135,235,C355,C403,C813,C913

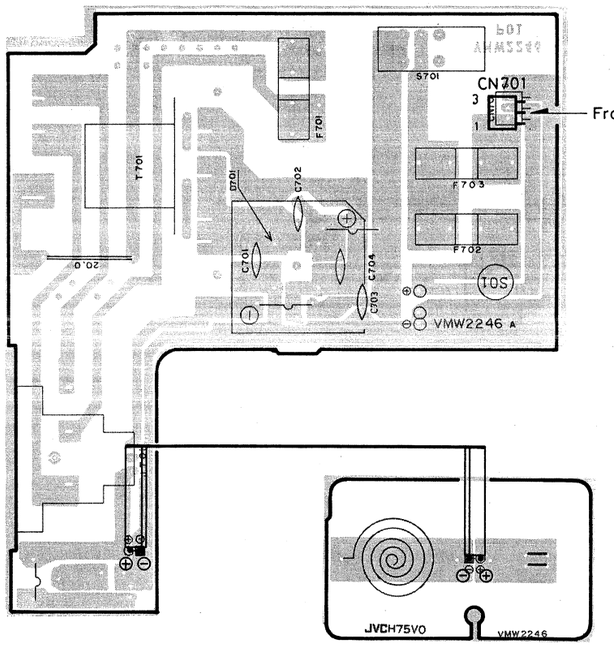
Blue line shows the signal at playback.
Red line shows the signal at recording.
+B line.
⚠ parts are safety assurance parts. When replacing those parts, make sure to use the specified one.

7 Wiring Connections (1/2)



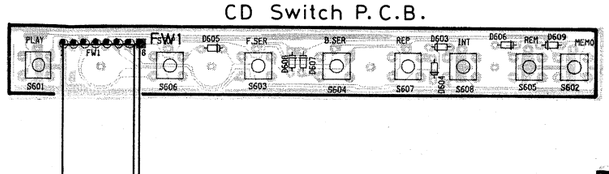
Wiring Connections (2/2)

Power P.C.B.

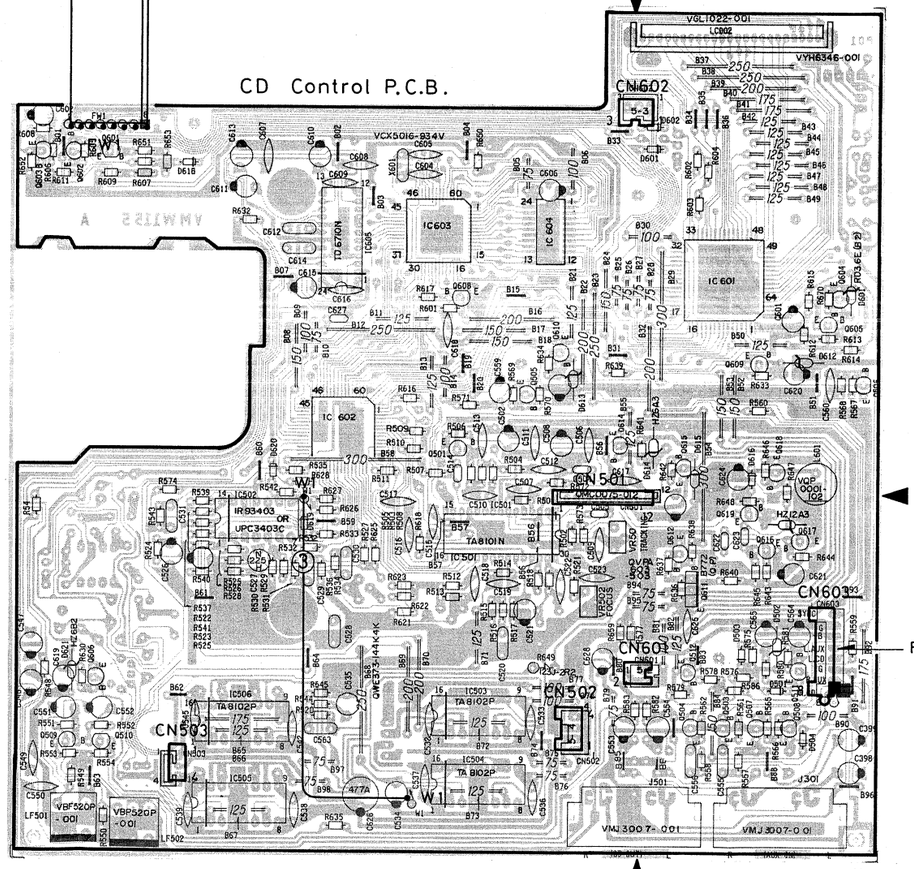


Batt. Contact P.C.B.

CD Switch P.C.B.



CD Control P.C.B.

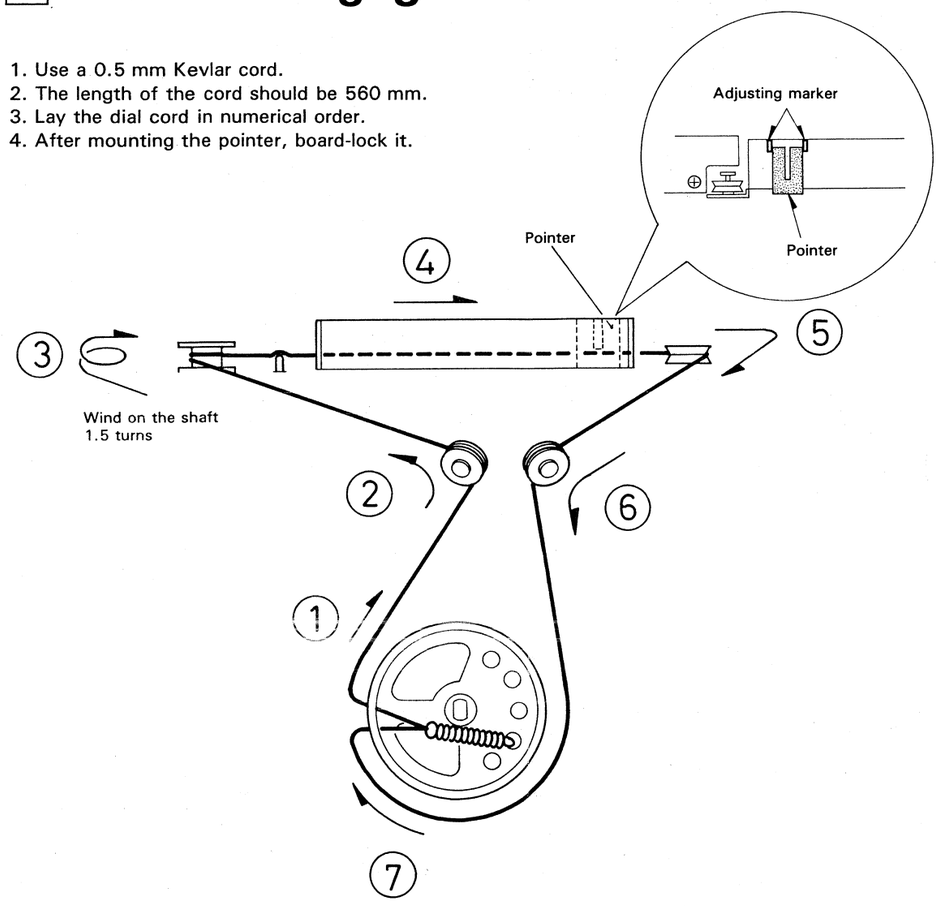


Color code are shown below

1 ..... Brown
2 ..... Red
3 ..... Orange
4 ..... Yellow
5 ..... Green
6 ..... Blue
7 ..... Violet
8 ..... Gray
9 ..... White
0 ..... Black
D ..... Pink
C ..... Light Blue

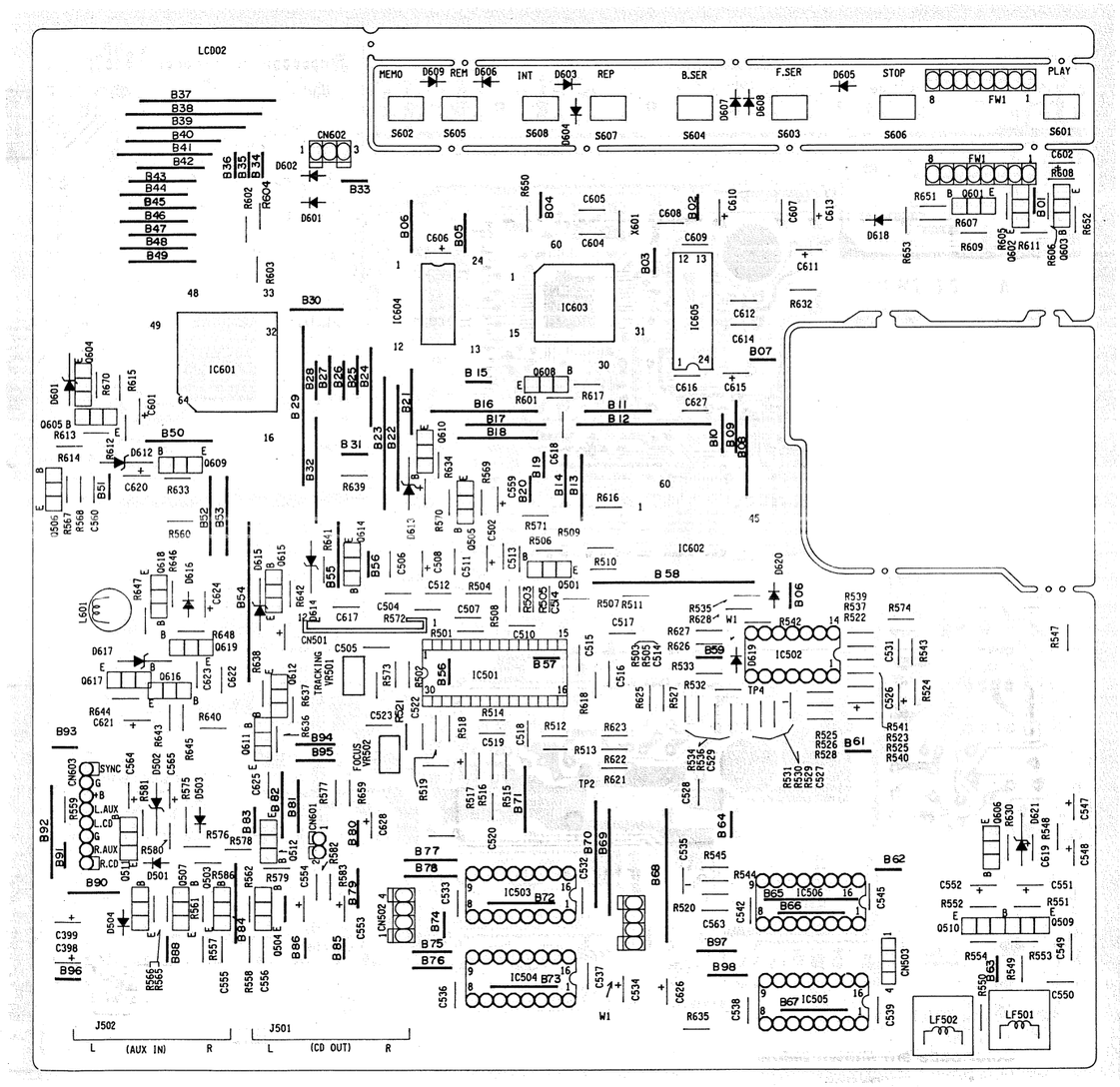
8 How to Engage Dial Cord

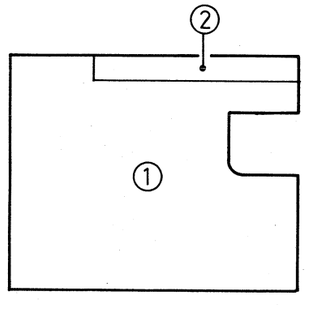
1. Use a 0.5 mm Kevlar cord.
2. The length of the cord should be 560 mm.
3. Lay the dial cord in numerical order.
4. After mounting the pointer, board-lock it.



9 Location of P.C. Board Parts and Their Parts List

■ **CD Control Board**





1. CD Control P.C. Board
2. CD Switch P.C. Board

CD Control Board Parts List

⚠ parts are safety assurance parts. When replacing those parts, make sure to use the specified one.

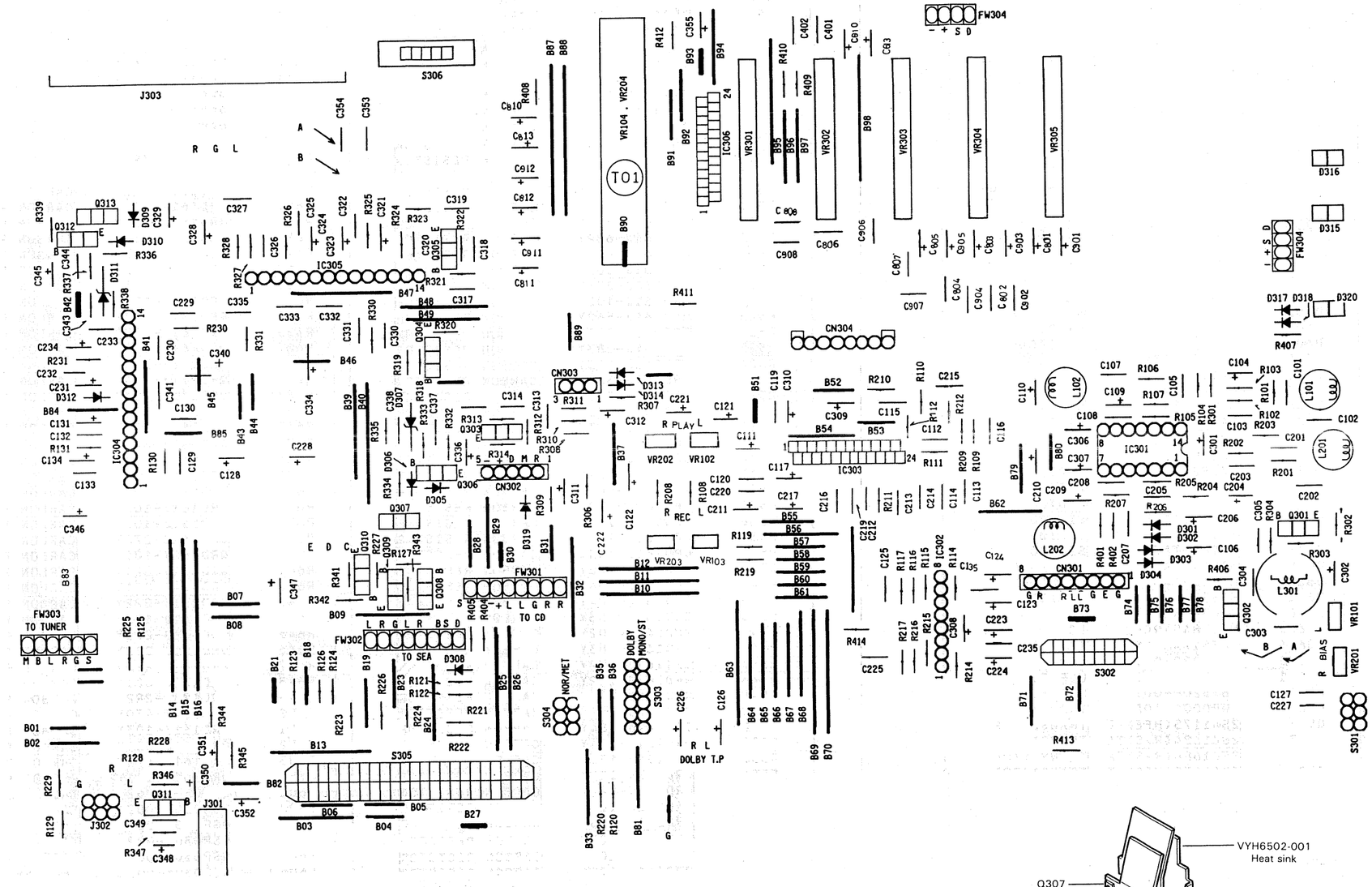
⚠	REF. NO	PARTS NO.	PARTS NAME
	CN501	VMC0075-012	CONNECTOR
	CN502	QMV5005-004	CONNECTOR
	CN503	VMC0075-004	CONNECTOR
	CN601	QMV5005-002	CONNECTOR
	CN602	QMV5005-003	CONNECTOR
	CN603	VMC0007-008	CONNECTOR
	C502	QETC1AM-476ZM	E.CAPACITOR
	C504	QCBB1HK-471Y	C.CAPACITOR
	C505	QCBB1HK-471Y	C.CAPACITOR
	C506	QCC31EM-223ZV	C.CAPACITOR
	C507	QCS31HJ-330Z	C.CAPACITOR
	C508	QETC1AM-476ZM	E.CAPACITOR
	C509	QCS31HJ-330Z	C.CAPACITOR
	C510	QCS31HJ-2R0Z	C.CAPACITOR
	C511	QCC31EM-223ZV	C.CAPACITOR
	C512	QCS31HJ-270Z	C.CAPACITOR
	C513	QCS31HJ-101Z	C.CAPACITOR
	C514	QCVB1CN-103Y	C.CAPACITOR
	C515	QCC31EM-473ZV	C.CAPACITOR
	C516	QCS31HJ-470Z	C.CAPACITOR
	C517	QCS31HJ-470Z	C.CAPACITOR
	C518	QCS31HJ-121Z	C.CAPACITOR
	C519	QCS31HJ-181Z	C.CAPACITOR
	C520	QFN31HJ-152Z	M.CAPACITOR
	C521	QETC1AM-476ZM	E.CAPACITOR
	C522	QCS31HJ-391Z	C.CAPACITOR
	C523	QCS31HJ-391Z	C.CAPACITOR
	C525	QETC1HM-475ZM	E.CAPACITOR
	C526	QETC1AM-476ZM	E.CAPACITOR
	C527	QEN51HM-225N	NP E.CAPACITOR
	C528	QFV71HJ-223ZM	TF.CAPACITOR
	C529	QFV71HJ-223ZM	TF.CAPACITOR
	C530	QFV71HJ-273ZM	TF.CAPACITOR
	C531	QFV71HJ-473ZM	TF.CAPACITOR
	C532	QCC31EM-104ZV	C.CAPACITOR
	C533	QCC31EM-104ZV	C.CAPACITOR
	C534	QETC1AM-476ZM	E.CAPACITOR
	C535	QEN61HR-105ZN	NP E.CAPACITOR
	C536	QCC31EM-104ZV	C.CAPACITOR
	C537	QCC31EM-104ZV	C.CAPACITOR
	C538	QCC31EM-104ZV	C.CAPACITOR
	C539	QCC31EM-104ZV	C.CAPACITOR
	C542	QCC31EM-104ZV	C.CAPACITOR
	C545	QCC31EM-104ZV	C.CAPACITOR
	C547	QETC1HM-335ZM	E.CAPACITOR
	C548	QETC1HM-335ZM	E.CAPACITOR
	C549	QFN31HJ-272Z	M.CAPACITOR
	C550	QFN31HJ-272Z	M.CAPACITOR
	C551	QETC1HM-105ZM	E.CAPACITOR
	C552	QETC1HM-105ZM	E.CAPACITOR
	C553	QETC1HM-224ZM	E.CAPACITOR
	C554	QETC1HM-224ZM	E.CAPACITOR
	C555	QFV71HJ-123ZM	TF.CAPACITOR
	C556	QFV71HJ-123ZM	TF.CAPACITOR
	C559	QETC1EM-106ZM	E.CAPACITOR
	C560	QFV71HJ-563ZM	TF.CAPACITOR
	C563	QFV71HJ-683ZM	TF.CAPACITOR
	C564	QETC1HM-105ZM	E.CAPACITOR
	C565	QETC1HM-335ZM	E.CAPACITOR
	C601	QETC1AM-107ZM	E.CAPACITOR
	C602	QETC1EM-106ZM	E.CAPACITOR
	C604	QCS31HJ-100Z	C.CAPACITOR
	C605	QCS31HJ-100Z	C.CAPACITOR
	C606	QETC1AM-476ZM	E.CAPACITOR
	C607	QCC31EM-473ZV	C.CAPACITOR
	C608	QCC31EM-473ZV	C.CAPACITOR
	C609	QCS31HJ-331Z	C.CAPACITOR
	C610	QETC1EM-106ZM	E.CAPACITOR
	C611	QETC1AM-476ZM	E.CAPACITOR
	C612	QFN31HJ-122Z	M.CAPACITOR

⚠	REF. NO	PARTS NO.	PARTS NAME
	C613	QETC1EM-106ZM	E.CAPACITOR
	C614	QFN31HJ-122Z	M.CAPACITOR
	C615	QETC1EM-106ZM	E.CAPACITOR
	C616	QCS31HJ-331Z	C.CAPACITOR
	C617	QCC31EM-223ZV	C.CAPACITOR
	C618	QCC31EM-223ZV	C.CAPACITOR
	C619	QETC1AM-476ZM	E.CAPACITOR
	C620	QETC1AM-107ZM	E.CAPACITOR
	C621	QETC1AM-476ZM	E.CAPACITOR
	C622	QCBB1HK-471Y	C.CAPACITOR
	C623	QCBB1HK-471Y	C.CAPACITOR
	C624	QETC1EM-106ZM	E.CAPACITOR
	C625	QCC31EM-223ZV	C.CAPACITOR
	C626	QETB1AM-477M	E.CAPACITOR
	C627	QCBB1HK-151Y	C.CAPACITOR
	C628	QETC1AM-107ZM	E.CAPACITOR
	D501	MA165-TA5V	SI DIODE
	D502	HZ6B2	Z DIODE
	D503	MA165-TA5V	SI DIODE
	D504	MA165-TA5V	SI DIODE
	D505	MA165	SI DIODE
	D601	MA165-TA5V	SI DIODE
	D602	MA165-TA5V	SI DIODE
	D603	MA165-TA5V	SI DIODE
	D604	MA165-TA5V	SI DIODE
	D605	MA165-TA5V	SI DIODE
	D606	MA165-TA5V	SI DIODE
	D607	MA165-TA5V	SI DIODE
	D608	MA165-TA5V	SI DIODE
	D609	MA165-TA5V	SI DIODE
	D610	RD3.6E(B2)	Z DIODE
	D612	HZ6B2	Z DIODE
	D613	HZ6B2	Z DIODE
	D614	HZ6A3	Z DIODE
	D615	HZ6A3	Z DIODE
	D616	MA165-TA5V	SI DIODE
	D617	HZ12A3	Z DIODE
	D618	MA165-TA5V	SI DIODE
	D619	MA165-TA5V	SI DIODE
	D620	MA165-TA5V	SI DIODE
	D621	HZ6B2	Z DIODE
	IC502	UPC3403C	IC
	IC601	MN15845JRC-1	IC
	IC604	LC3517AM-15	IC
	LCD02	VGL1022-001	LCD
	LF501	VBF520P-001T	L.P.F.
	LF502	VBF520P-001T	L.P.F.
	L601	VQP0001-102	INDUCTOR
	Q501	2SA1175(HFE)-T	TRANSISTOR
	Q503	2SC1684(R,S)TA	TRANSISTOR
	Q504	2SC1684(R,S)TA	TRANSISTOR
	Q505	2SA1175(HFE)-T	TRANSISTOR
	Q506	2SA1175(HFE)-T	TRANSISTOR
	Q507	2SD1302(RST)TA	TRANSISTOR
	Q508	2SD1302(RST)TA	TRANSISTOR
	Q509	2SC1684(R,S)TA	TRANSISTOR
	Q510	2SC1684(R,S)TA	TRANSISTOR
	Q512	2SA1175(HFE)-T	TRANSISTOR
	Q601	2SC1684(R,S)TA	TRANSISTOR
	Q602	2SA1175(HFE)-T	TRANSISTOR
	Q603	2SC1684(R,S)TA	TRANSISTOR
	Q604	2SC1684(R,S)TA	TRANSISTOR
	Q605	2SC1684(R,S)TA	TRANSISTOR
	Q606	2SC1684(R,S)TA	TRANSISTOR
	Q608	2SC1684(R,S)TA	TRANSISTOR
	Q609	2SC1684(R,S)TA	TRANSISTOR
	Q610	2SC1684(R,S)TA	TRANSISTOR
	Q611	2SB772(Q,P)	TRANSISTOR
	Q612	2SC1684(R,S)TA	TRANSISTOR
	Q614	2SC1684(R,S)TA	TRANSISTOR
	Q615	2SD1302(RST)TA	TRANSISTOR
	Q616	2SC1684(R,S)TA	TRANSISTOR
	Q617	2SC1684(R,S)TA	TRANSISTOR
	Q618	2SA1175(HFE)-T	TRANSISTOR
	Q619	2SA1175(HFE)-T	TRANSISTOR

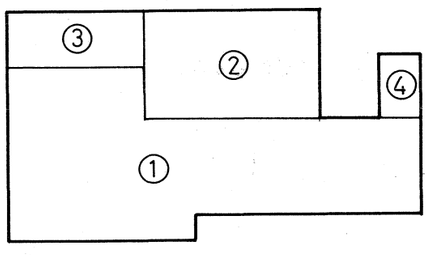
⚠	REF. NO	PARTS NO.	PARTS NAME
	R501	QRD161J-154Y	CARBON RESISTOR
	R502	QRD161J-124Y	CARBON RESISTOR
	R503	QRD161J-682Y	CARBON RESISTOR
	R504	QRD161J-472Y	CARBON RESISTOR
	R505	QRD161J-102Y	CARBON RESISTOR
	R506	QRD161J-681Y	CARBON RESISTOR
	R507	QRD161J-272Y	CARBON RESISTOR
	R508	QRD161J-223Y	CARBON RESISTOR
	R509	QRD161J-222Y	CARBON RESISTOR
	R510	QRD161J-103Y	CARBON RESISTOR
	R511	QRD161J-103Y	CARBON RESISTOR
	R512	QRD161J-103Y	CARBON RESISTOR
	R513	QRD161J-822Y	CARBON RESISTOR
	R514	QRD161J-473Y	CARBON RESISTOR
	R515	QRD161J-473Y	CARBON RESISTOR
	R516	QRD161J-183Y	CARBON RESISTOR
	R517	QRD161J-822Y	CARBON RESISTOR
	R518	QRD161J-682Y	CARBON RESISTOR
	R519	QRD161J-473Y	CARBON RESISTOR
	R520	QRD161J-103Y	CARBON RESISTOR
	R521	QRD161J-273Y	CARBON RESISTOR
	R522	QRD161J-102Y	CARBON RESISTOR
	R523	QRD161J-562Y	CARBON RESISTOR
	R524	QRD161J-222Y	CARBON RESISTOR
	R525	QRD161J-183Y	CARBON RESISTOR
	R526	QRD161J-103Y	CARBON RESISTOR
	R527	QRD161J-564Y	CARBON RESISTOR
	R528	QRD161J-272Y	CARBON RESISTOR
	R529	QRD161J-153Y	CARBON RESISTOR
	R530	QRD161J-183Y	CARBON RESISTOR
	R531	QRD161J-102Y	CARBON RESISTOR
	R532	QRD161J-153Y	CARBON RESISTOR
	R533	QRD161J-822Y	CARBON RESISTOR
	R534	QRD161J-681Y	CARBON RESISTOR
	R535	QRD161J-272Y	CARBON RESISTOR
	R536	QRD161J-104Y	CARBON RESISTOR
	R537	QRD161J-103Y	CARBON RESISTOR
	R539	QRD161J-103Y	CARBON RESISTOR
	R540	QRD161J-272Y	CARBON RESISTOR
	R541	QRD161J-104Y	CARBON RESISTOR
	R542	QRD161J-104Y	CARBON RESISTOR
	R543	QRD161J-153Y	CARBON RESISTOR
	R544	QRD161J-102Y	CARBON RESISTOR
	R545	QRD161J-183Y	CARBON RESISTOR
	R547	QRD161J-272Y	CARBON RESISTOR
	R548	QRD161J-272Y	CARBON RESISTOR
	R549	QRD161J-682Y	CARBON RESISTOR
	R550	QRD161J-682Y	CARBON RESISTOR
	R551	QRD161J-684Y	CARBON RESISTOR
	R552	QRD161J-684Y	CARBON RESISTOR
	R553	QRD161J-122Y	CARBON RESISTOR
	R554	QRD161J-122Y	CARBON RESISTOR
	R557	QRD161J-122Y	CARBON RESISTOR
	R558	QRD161J-122Y	CARBON RESISTOR
	R559	QRD161J-103	CARBON RESISTOR
	R560	QRD161J-103Y	CARBON RESISTOR
	R561	QRD161J-104Y	CARBON RESISTOR
	R562	QRD161J-104Y	CARBON RESISTOR
	R565	QRD161J-222Y	CARBON RESISTOR
	R566	QRD161J-222Y	CARBON RESISTOR
	R567	QRD161J-473Y	CARBON RESISTOR
	R568	QRD161J-153Y	CARBON RESISTOR
	R569	QRD161J-104Y	CARBON RESISTOR
	R570	QRD161J-103Y	CARBON RESISTOR
	R571	QRD161J-103Y	CARBON RESISTOR
	R572	QRD161J-183Y	CARBON RESISTOR
	R573	QRD161J-183Y	CARBON RESISTOR
	R574	QRD161J-155Y	CARBON RESISTOR
	R575	QRD161J-473Y	CARBON RESISTOR
	R576	QRD161J-681Y	CARBON RESISTOR
	R577	QRD161J-102Y	CARBON RESISTOR
	R578	QRD161J-103	CARBON RESISTOR
	R579	QRD161J-124Y	CARBON RESISTOR
	R580	QRD161J-181Y	CARBON RESISTOR
	R581	QRD161J-683Y	CARBON RESISTOR

⚠	REF. NO	PARTS NO.	PARTS NAME
	R582	QRD161J-332Y	CARBON RESISTOR
	R583	QRD161J-332Y	CARBON RESISTOR
	R586	QRD161J-223Y	CARBON RESISTOR
	R601	QRD161J-473Y	CARBON RESISTOR
	R602	QRD161J-152Y	CARBON RESISTOR
	R603	QRD161J-152Y	CARBON RESISTOR
	R604	QRD161J-152Y	CARBON RESISTOR
	R605	QRD161J-103Y	CARBON RESISTOR
	R606	QRD161J-103Y	CARBON RESISTOR
	R607	QRD161J-473Y	CARBON RESISTOR
	R608	QRD161J-334Y	CARBON RESISTOR
	R609	QRD161J-103Y	CARBON RESISTOR
	R610	QRD161J-391Y	CARBON RESISTOR
	R611	QRD161J-103Y	CARBON RESISTOR
	R612	QRD161J-102Y	CARBON RESISTOR
	R613	QRD161J-103Y	CARBON RESISTOR
	R614	QRD161J-222Y	CARBON RESISTOR
	R615	QRD161J-331Y	CARBON RESISTOE
	R616	QRD161J-103Y	CARBON RESISTOR
	R617	QRD161J-103Y	CARBON RESISTOR
	R618	QRD161J-273Y	CARBON RESISTOR
	R621	QRD161J-181Y	CARBON RESISTOR
	R622	QRD161J-223Y	CARBON RESISTOR
	R623	QRD161J-103Y	CARBON RESISTOR
	R625	QRD161J-155Y	CARBON RESISTOR
	R626	QRD161J-333Y	CARBON RESISTOR
	R627	QRD161J-124Y	CARBON RESISTOR
	R628	QRD161J-103Y	CARBON RESISTOR
	R630	QRD161J-821Y	CARBON RESISTOR
	R632	QRD161J-683Y	CARBON RESISTOR
	R633	QRD161J-821Y	CARBON RESISTOR
	R634	QRD161J-821Y	CARBON RESISTOR
	R635	QRD161J-101Y	CARBON RESISTOR
	R636	QRD161J-104Y	CARBON RESISTOR
	R637	QRD161J-102Y	CARBON RESISTOR
	R638	QRD161J-103Y	CARBON RESISTOR
	R639	QRD161J-272Y	CARBON RESISTOR
	R640	QRD161J-101Y	CARBON RESISTOR
	R641	QRD161J-821Y	CARBON RESISTOR
	R642	QRD161J-821Y	CARBON RESISTOR
	R643	QRD161J-222Y	CARBON RESISTOR
	R644	QRD161J-183Y	CARBON RESISTOR
	R645	QRD161J-273Y	CARBON RESISTOR
	R646	QRD161J-222Y	CARBON RESISTOR
	R647	QRD161J-222Y	CARBON RESISTOR
	R648	QRD161J-821Y	CARBON RESISTOR
	R649	QRD123J-2R2	CARBON RESISTOR
	R650	QRD161J-470Y	CARBON RESISTOR
	R651	QRD161J-103Y	CARBON RESISTOR
	R652	QRD161J-334Y	CARBON RESISTOR
	R653	QRD161J-472Y	CARBON RESISTOR
	R659	QRD161J-101Y	CARBON RESISTOR
	S601	QSP0301-002	TACT SWITCH
	S602	QSP0301-002	TACT SWITCH
	S603	QSP0301-002	TACT SWITCH
	S604	QSP0301-002	TACT SWITCH
	S605	QSP0301-002	TACT SWITCH
	S606	QSP0301-002	TACT SWITCH
	S607	QSP0301-002	TACT SWITCH
	S608	QSP0301-002	TACT SWITCH
	VR501	QVPA603-503	V RESISTOR
	VR502	QVPA603-503	V RESISTOR
	X601	VCX5016-934V	CRYSTAL

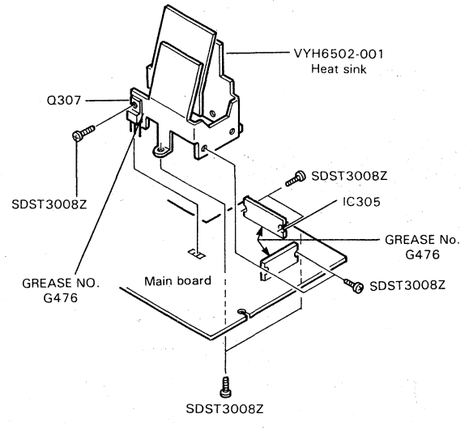
■ Amplifier Board



Board Layout



1. Main P.C. Board
2. SEA P.C. Board
3. Terminal P.C. Board
4. Direction Indicator P.C. Board



Amplifier Board Parts List (1/3)

⚠ parts are safety assurance parts. When replacing those parts, make sure to use the specified one.

⚠	REF. NO	PARTS NO.	PARTS NAME
	VR201	QVPA603-104	V RESISTOR
	VR202	QVPA603-103	V RESISTOR
	VR203	QVPA603-103	V RESISTOR
	VR204	QVUB2GA-V03	V RESISTOR
	CN301	QMV5011-008	CONNECTOR
	CN302	QMV5011-004	CONNECTOR
	CN303	QMV5011-003	CONNECTOR
	CN304	E04365-008	CONNECTOR
	C101	QCY31HK-102Z	C.CAPACITOR
	C102	QCS31HJ-331Z	C.CAPACITOR
	C103	QCC31EM-104ZV	C.CAPACITOR
	C104	QETC1HM-335ZM	E.CAPACITOR
	C105	QCC31EM-273ZV	C.CAPACITOR
	C106	QETC1HM-474ZM	E.CAPACITOR
	C107	QFV71HJ-223ZM	TF.CAPACITOR
	C108	QCBB1HK-471Y	C.CAPACITOR
	C109	QETC1HM-475ZM	E.CAPACITOR
	C110	QETC1HM-335ZM	E.CAPACITOR
	C111	QETC1HM-335ZM	E.CAPACITOR
	C112	QFN31HJ-472Z	M.CAPACITOR
	C113	QCC31EM-103ZV	C.CAPACITOR
	C114	QCC31EM-104ZV	C.CAPACITOR
	C115	QCC31EM-333ZV	C.CAPACITOR
	C116	QFV71HJ-333ZM	TF.CAPACITOR
	C117	QETC1HM-335ZM	E.CAPACITOR
	C119	QCBB1HK-102Y	C.CAPACITOR
	C120	QCBB1HK-331Y	C.CAPACITOR
	C121	QETC1HM-335ZM	E.CAPACITOR
	C122	QETC1HM-335ZM	E.CAPACITOR
	C123	QETC1HM-105ZM	E.CAPACITOR
	C124	QETC1AM-476ZM	E.CAPACITOR
	C125	QFV71HJ-153ZM	TF.CAPACITOR
	C126	QETA1HM-224N	E CAPACITOR
	C127	QCBB1HK-331Y	C.CAPACITOR
	C128	QETB1AM-477N	E.CAPACITOR
	C129	QCC31EM-104ZV	C.CAPACITOR
	C130	QCC31EM-683ZV	C.CAPACITOR
	C131	QETC1AM-476ZM	E.CAPACITOR
	C132	QCVB1CM-103Y	C.CAPACITOR
	C133	QCBB1HK-471Y	C.CAPACITOR
	C134	QETC1AM-476ZM	E.CAPACITOR
	C135	QCBB1HK-102Y	C.CAPACITOR
	C201	QCY31HK-102Z	C.CAPACITOR
	C202	QCS31HJ-331Z	C.CAPACITOR
	C203	QCC31EM-104ZV	C.CAPACITOR
	C204	QETC1HM-335ZM	E.CAPACITOR
	C205	QCC31EM-273ZV	C.CAPACITOR
	C206	QETC1HM-474ZM	E.CAPACITOR
	C207	QFV71HJ-223ZM	TF.CAPACITOR
	C208	QCBB1HK-471Y	C.CAPACITOR
	C209	QETC1HM-475ZM	E.CAPACITOR
	C210	QETC1HM-335ZM	E.CAPACITOR
	C211	QETC1HM-335ZM	E.CAPACITOR
	C212	QFN31HJ-472Z	M.CAPACITOR
	C213	QCC31EM-103ZV	C.CAPACITOR
	C214	QCC31EM-104ZV	C.CAPACITOR
	C215	QCC31EM-333ZV	C.CAPACITOR
	C216	QFV71HJ-333ZM	TF.CAPACITOR
	C217	QETC1HM-335ZM	E.CAPACITOR
	C219	QCBB1HK-102Y	C.CAPACITOR
	C220	QCBB1HK-331Y	C.CAPACITOR
	C221	QETC1HM-335ZM	E.CAPACITOR
	C222	QETC1HM-335ZM	E.CAPACITOR
	C223	QETB1HM-105N	E.CAPACITOR
	C224	QETC1AM-476ZM	E.CAPACITOR
	C225	QFV71HJ-153ZM	TF.CAPACITOR
	C226	QETA1HM-224N	E CAPACITOR
	C227	QCBB1HK-331Y	C.CAPACITOR
	C228	QETB1AM-477N	E.CAPACITOR
	C229	QCC31EM-104ZV	C.CAPACITOR

Amplifier Board Parts List (2/3)

⚠	REF. NO	PARTS NO.	PARTS NAME
	C230	QCC31EM-683ZV	C.CAPACITOR
	C231	QETC1AM-476ZM	E.CAPACITOR
	C232	QCVB1CM-103Y	C.CAPACITOR
	C233	QCBB1HK-471Y	C.CAPACITOR
	C234	QETC1AM-476ZM	E.CAPACITOR
	C235	QCBB1HK-102Y	C.CAPACITOR
	C301	QETC1AM-107ZM	E.CAPACITOR
	C302	QETC1AM-227ZM	E.CAPACITOR
	C303	QFV71HJ-393ZM	TF.CAPACITOR
	C304	QCC31EM-153ZV	C.CAPACITOR
	C305	QCXB1CM-682Y	C.CAPACITOR
	C306	QETC1AM-107ZM	E.CAPACITOR
	C307	QETC1AM-336ZM	E.CAPACITOR
	C308	QETC1AM-476ZM	E.CAPACITOR
	C309	QETC1AM-476ZM	E.CAPACITOR
	C310	QETC1AM-476ZM	E.CAPACITOR
	C311	QETC1AM-227ZM	E.CAPACITOR
	C312	QETC1HM-474ZM	E.CAPACITOR
	C317	QCC31EM-333ZV	C.CAPACITOR
	C318	QCC31EM-683ZV	C.CAPACITOR
	C319	QCC31EM-104ZV	C.CAPACITOR
	C320	QCVB1CM-103Y	C.CAPACITOR
	C321	QETC1AM-226ZM	E.CAPACITOR
	C322	QCVB1CM-103Y	C.CAPACITOR
	C323	QETB1EM-476N	E CAPACITOR
	C324	QETC1EM-476ZM	E CAPACITOR
	C325	QCVB1CM-103Y	C.CAPACITOR
	C326	QCVB1CM-103Y	C.CAPACITOR
	C327	QCC31EM-104ZV	C.CAPACITOR
	C328	QETC1AM-226ZM	E.CAPACITOR
	C329	QETB1EM-337N	E.CAPACITOR
	C330	QCC31EM-104ZV	C.CAPACITOR
	C331	QCC31EM-683ZV	C.CAPACITOR
	C332	QCBB1HK-471Y	C.CAPACITOR
	C333	QCC31EM-683ZV	C.CAPACITOR
	C334	QETB1EM-228M	E.CAPACITOR
	C335	QCC31EM-104ZV	C.CAPACITOR
	C336	QETB1AM-107	E.CAPACITOR
	C337	QCC31EM-223ZV	C.CAPACITOR
	C338	QCVB1CM-103Y	C.CAPACITOR
	C340	QETB1EM-477N	E.CAPACITOR
	C341	QCBB1HK-471Y	C.CAPACITOR
	C343	QCVB1CM-103Y	C.CAPACITOR
	C344	QCVB1CM-103Y	C.CAPACITOR
	C345	QETC1AM-227ZM	E.CAPACITOR
	C346	QETB1EM-227N	E.CAPACITOR
	C347	QETC1CM-106ZM	E.CAPACITOR
	C348	QETC1HM-335ZM	E.CAPACITOR
	C349	QCBB1HK-471Y	C.CAPACITOR
	C350	QETB1HM-105	E.CAPACITOR
	C351	QETC1AM-476ZM	E.CAPACITOR
	C352	QETC1HM-474ZM	E.CAPACITOR
	C353	QFN31HJ-332Z	M.CAPACITOR
	C354	QFN31HJ-182Z	M.CAPACITOR
	C355	QEK40JM-227	E.CAPACITOR
	C401	QCC31EM-103ZV	C.CAPACITOR
	C402	QCC31EM-103ZV	C.CAPACITOR
	C801	QETC1HM-225ZM	E.CAPACITOR
	C802	QCC31EM-683ZV	C.CAPACITOR
	C803	QETC1HM-474ZM	E.CAPACITOR
	C804	QCC31EM-153ZV	C.CAPACITOR
	C805	QCC31EM-104ZV	C.CAPACITOR
	C806	QCC31EM-333ZV	C.CAPACITOR
	C807	QCXB1CM-332Y	C.CAPACITOR
	C808	QCBB1HK-821Y	C.CAPACITOR
	C810	QETB1HM-474	E.CAPACITOR
	C811	QETC1HM-475ZM	E.CAPACITOR
	C812	QETC1HM-475ZM	E.CAPACITOR
	C813	QETC1HM-475ZM	E.CAPACITOR
	C901	QETC1HM-225ZM	E.CAPACITOR

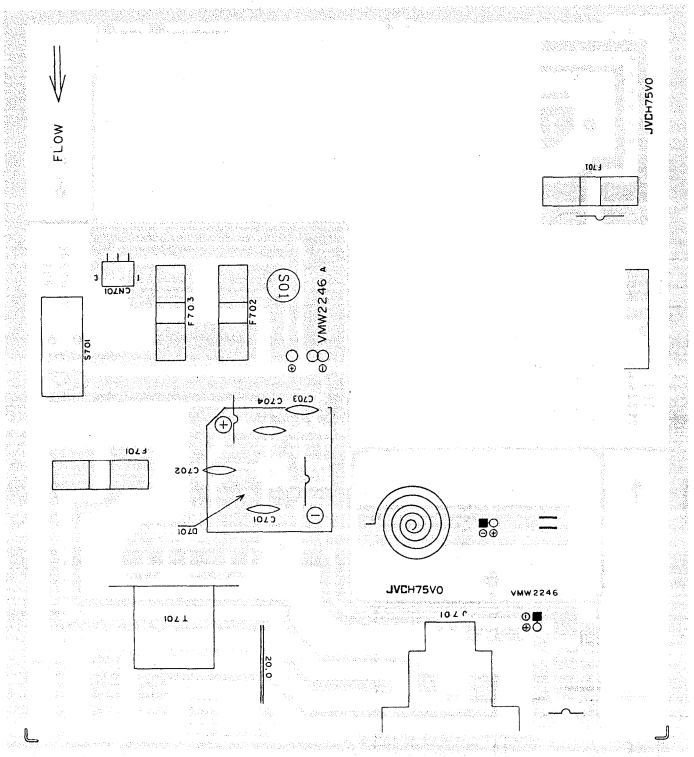
⚠	REF. NO	PARTS NO.	PARTS NAME
	C902	QCC31EM-683ZV	C.CAPACITOR
	C903	QETB1HM-474	E.CAPACITOR
	C904	QCC31EM-153ZV	C.CAPACITOR
	C905	QCC31EM-104ZV	C.CAPACITOR
	C906	QCC31EM-333ZV	C.CAPACITOR
	C907	QCXB1CM-332Y	C.CAPACITOR
	C908	QCBB1HK-821Y	C.CAPACITOR
	C910	QETC1HM-474ZM	E.CAPACITOR
	C911	QETB1HM-475	E.CAPACITOR
	C912	QETB1HM-475	E.CAPACITOR
	C913	QETC1HM-475ZM	E.CAPACITOR
	D301	1SS270TJ	SI DIODE
	D302	1SS270TJ	SI DIODE
	D303	1SS270TJ	SI DIODE
	D304	1SS270TJ	SI DIODE
	D305	1SS270TJ	SI DIODE
	D306	1SS270TJ	SI DIODE
	D307	HZ7B2	Z DIODE
	D308	1SS270TJ	SI DIODE
	D309	1SS270TJ	SI DIODE
	D310	1SS270TJ	SI DIODE
	D311	HZ4C2	Z DIODE
	D312	1SS270TJ	SI DIODE
	D313	MA700A-TA	S.B.DIODE
	D314	MA700A-TA	S.B.DIODE
	D315	LN273RP-(LS)	LED
	D316	LN273RP-(LS)	LED
	D317	1SS270TJ	SI DIODE
	D318	1SS270TJ	SI DIODE
	D319	1SS270TJ	SI DIODE
	D320	LN273RP-(LS)	LED
	IC301	LA3220	IC
	IC302	UPC1228HA	IC
	IC303	BA1104LS	IC
	IC304	LA4508	IC
	IC305	LA4508	IC
	IC306	BA3822LS	IC
	J301	QMS3501-016B	JACK
	J302	QMS3507-001H	JACK
	J303	VMJ4014-003	SPK TERMINAL
	L101	VQP0001-183	INDUCTOR
	L102	VQP0001-562	INDUCTOR
	L201	VQP0001-183	INDUCTOR
	L202	VQP0001-562	INDUCTOR
	L301	VQH1009-026	OSC COIL(BIAS)
	Q301	2SC2785(HFE)-T	TRANSISTOR
	Q302	2SC2785(HFE)-T	TRANSISTOR
	Q303	2SC2785(HFE)-T	TRANSISTOR
	Q305	2SC2785(HFE)-T	TRANSISTOR
	Q306	2SC2785(HFE)-T	TRANSISTOR
	Q307	2SB941(P)	TRANSISTOR
	Q308	2SC2001(L,K)-T	TRANSISTOR
	Q309	2SC2001(L,K)-T	TRANSISTOR
	Q310	2SA1175(HFE)-T	TRANSISTOR
	Q311	2SC2785(HFE)-T	TRANSISTOR
	Q312	2SC2785(HFE)-T	TRANSISTOR
	Q313	2SB772(Q,P)	TRANSISTOR
	R101	QRD161J-103Y	CARBON RESISTOR
	R102	QRD161J-392Y	CARBON RESISTOR
	R103	QRD161J-681Y	CARBON RESISTOR
	R104	QRD161J-823Y	CARBON RESISTOR
	R105	QRD161J-154Y	CARBON RESISTOR
	R106	QRD161J-151Y	CARBON RESISTOR
	R107	QRD161J-102Y	CARBON RESISTOR
	R108	QRD161J-223Y	CARBON RESISTOR
	R109	QRD161J-332Y	CARBON RESISTOR
	R110	QRD161J-434Y	CARBON RESISTOR
	R111	QRD161J-473Y	CARBON RESISTOR
	R112	QRD161J-824	CARBON RESISTOR
	R114	QRD161J-101Y	CARBON RESISTOR

Amplifier Board Parts List (3/3)

⚠	REF. NO	PARTS NO.	PARTS NAME
	R115	QRD161J-224Y	CARBON RESISTOR
	R116	QRD161J-392Y	CARBON RESISTOR
	R117	QRD161J-562Y	CARBON RESISTOR
	R119	QRD161J-103Y	CARBON RESISTOR
	R120	QRD161J-562Y	CARBON RESISTOR
	R121	QRD161J-273Y	CARBON RESISTOR
	R122	QRD161J-393Y	CARBON RESISTOR
	R123	QRD161J-332Y	CARBON RESISTOR
	R124	QRD161J-392Y	CARBON RESISTOR
	R125	QRD161J-562Y	CARBON RESISTOR
	R126	QRD161J-392Y	CARBON RESISTOR
	R127	QRD161J-222Y	CARBON RESISTOR
	R128	QRD161J-102Y	CARBON RESISTOR
	R129	QRD161J-820Y	CARBON RESISTOR
	R130	QRD161J-2R2Y	CARBON RESISTOR
	R131	QRD161J-2R2Y	CARBON RESISTOR
	R201	QRD161J-103Y	CARBON RESISTOR
	R202	QRD161J-392Y	CARBON RESISTOR
	R203	QRD161J-681Y	CARBON RESISTOR
	R204	QRD161J-823Y	CARBON RESISTOR
	R205	QRD161J-154Y	CARBON RESISTOR
	R206	QRD161J-151Y	CARBON RESISTOR
	R207	QRD161J-102Y	CARBON RESISTOR
	R208	QRD161J-223Y	CARBON RESISTOR
	R209	QRD161J-332Y	CARBON RESISTOR
	R210	QRD161J-434Y	CARBON RESISTOR
	R211	QRD161J-473Y	CARBON RESISTOR
	R212	QRD161J-824Y	CARBON RESISTOR
	R214	QRD161J-101Y	CARBON RESISTOR
	R215	QRD161J-224Y	CARBON RESISTOR
	R216	QRD161J-392Y	CARBON RESISTOR
	R217	QRD161J-562Y	CARBON RESISTOR
	R219	QRD161J-103Y	CARBON RESISTOR
	R220	QRD161J-562Y	CARBON RESISTOR
	R221	QRD161J-273Y	CARBON RESISTOR
	R222	QRD161J-393Y	CARBON RESISTOR
	R223	QRD161J-332Y	CARBON RESISTOR
	R224	QRD161J-392Y	CARBON RESISTOR
	R226	QRD161J-392Y	CARBON RESISTOR
	R227	QRD161J-222Y	CARBON RESISTOR
	R228	QRD161J-102Y	CARBON RESISTOR
	R229	QRD161J-820Y	CARBON RESISTOR
	R230	QRD161J-2R2Y	CARBON RESISTOR
	R231	QRD161J-2R2Y	CARBON RESISTOR
	R301	QRD161J-560Y	CARBON RESISTOR
	R302	QRD161J-100Y	CARBON RESISTOR
	R303	QRD161J-2R2Y	CARBON RESISTOR
	R304	QRD161J-472Y	CARBON RESISTOR
	R306	QRD161J-101Y	CARBON RESISTOR
	R307	QRD161J-104Y	CARBON RESISTOR
	R308	QRD161J-104Y	CARBON RESISTOR
	R309	QRD161J-101Y	CARBON RESISTOR
	R311	QRD161J-104Y	CARBON RESISTOR
	R319	QRD161J-102Y	CARBON RESISTOR
	R320	QRD161J-393Y	CARBON RESISTOR
	R321	QRD161J-393Y	CARBON RESISTOR
	R322	QRD161J-102Y	CARBON RESISTOR
	R323	QRD161J-223Y	CARBON RESISTOR
	R324	QRD144J-563S	CARBON RESISTOR
	R325	QRD161J-2R2Y	CARBON RESISTOR
	R326	QRD161J-2R2Y	CARBON RESISTOR
	R327	QRD144J-563S	CARBON RESISTOR
	R328	QRD161J-223Y	CARBON RESISTOR
	R330	QRD161J-2R2Y	CARBON RESISTOR
	R331	QRD161J-2R2Y	CARBON RESISTOR
	R332	QRD161J-102Y	CARBON RESISTOR
	R333	QRD161J-102Y	CARBON RESISTOR
	R334	QRD161J-560Y	CARBON RESISTOR
	R335	QRD161J-332Y	CARBON RESISTOR
	R336	QRD161J-332Y	CARBON RESISTOR

⚠	REF. NO	PARTS NO.	PARTS NAME
	R337	QRD161J-102Y	CARBON RESISTOR
	R338	QRD161J-102Y	CARBON RESISTOR
	R339	QRD161J-560Y	CARBON RESISTOR
	R341	QRD161J-224Y	CARBON RESISTOR
	R342	QRD161J-103Y	CARBON RESISTOR
	R343	QRD161J-103Y	CARBON RESISTOR
	R344	QRD161J-561Y	CARBON RESISTOR
	R345	QRD161J-392Y	CARBON RESISTOR
	R346	QRD144J-680S	CARBON RESISTOR
	R347	QRD161J-334Y	CARBON RESISTOR
	R401	QRD161J-475Y	CARBON RESISTOR
	R402	QRD161J-475Y	CARBON RESISTOR
	R404	QRD161J-151Y	CARBON RESISTOR
	R405	QRD144J-331S	CARBON RESISTOR
	R406	QRD161J-103Y	CARBON RESISTOR
	R407	QRD161J-561Y	CARBON RESISTOR
	R408	QRD161J-562Y	CARBON RESISTOR
	R409	QRD161J-681Y	CARBON RESISTOR
	R410	QRD161J-681Y	CARBON RESISTOR
	R411	QRD161J-221Y	CARBON RESISTOR
	R412	QRD161J-562Y	CARBON RESISTOR
	R413	QRD161J-393Y	CARBON RESISTOR
	R414	QRD161J-101Y	CARBON RESISTOR
	R415	QRD161J-104	CARBON RESISTOR
	R416	QRD161J-822	CARBON RESISTOR
	R417	QRD161J-822	CARBON RESISTOR
	S301	QST3101-V08	PUSH SWITCH
	S302	QSS6201-209V	SLIDE SWITCH
	S303	QST3101-V04	PUSH SWITCH
	S304	QST3101-V08	PUSH SWITCH
	S305	QSS7A84-V01	SLIDE SWITCH
	S306	QSS1301-101	SLIDE SWITCH
	VR101	QVPA603-104	V RESISTOR
	VR102	QVPA603-103	V RESISTOR
	VR103	QVPA603-103	V RESISTOR
	VR104	QVUB2GA-V03	V RESISTOR
	VR201	QVPA603-104	V RESISTOR
	VR202	QVPA603-103	V RESISTOR
	VR203	QVPA603-103	V RESISTOR
	VR204	QVUB2GA-V03	V RESISTOR
	VR301	QVXB1FG-V15	V RESISTOR
	VR302	QVXB1FG-V15	V RESISTOR
	VR303	QVXB1FG-V15	V RESISTOR
	VR304	QVXB1FG-V15	V RESISTOR
	VR305	QVXB1FG-V15	V RESISTOR
	R225	QRD161J-562Y	CARBON RESISTOR

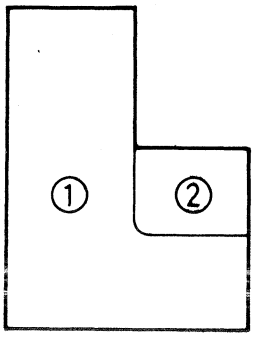
■ Power Supply Board



Power Supply Board Parts List

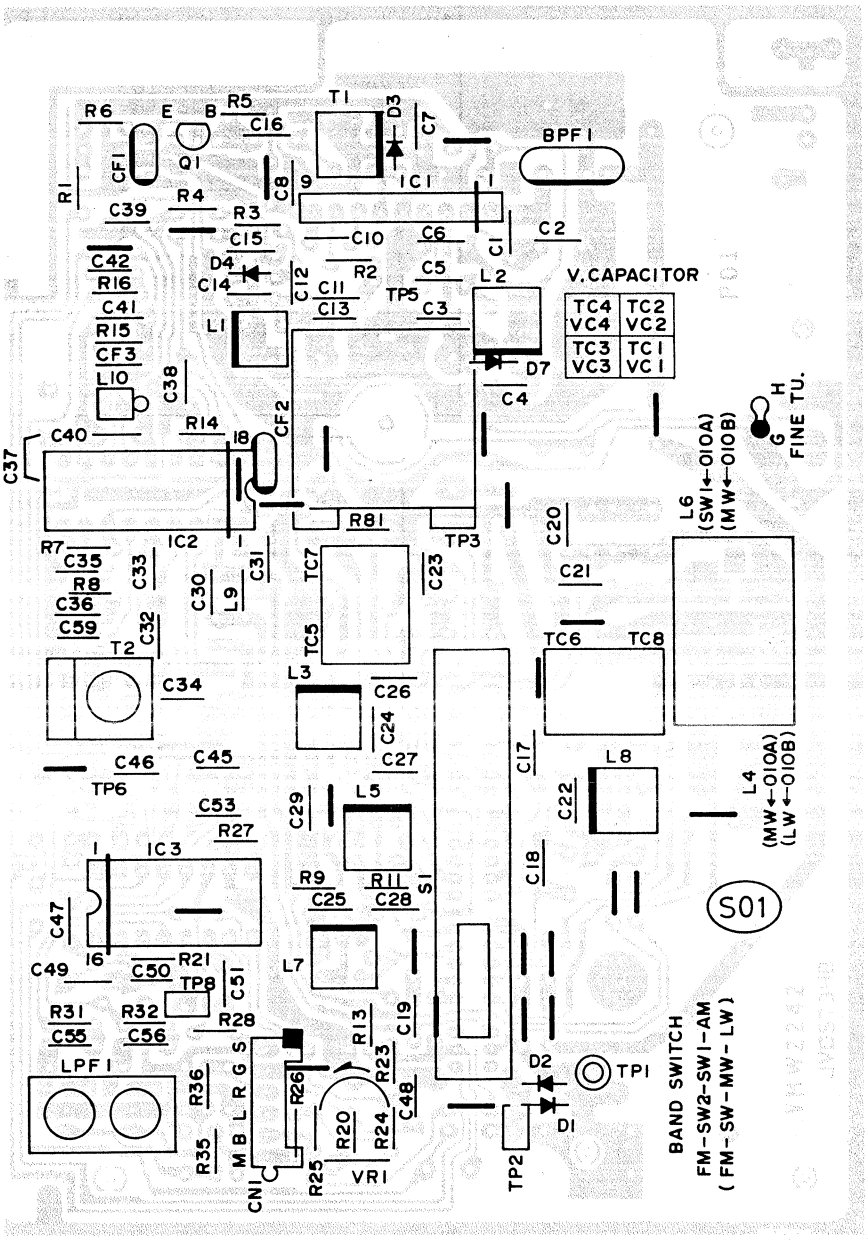
⚠ parts are safety assurance parts. When replacing those parts, make sure to use the specified one.

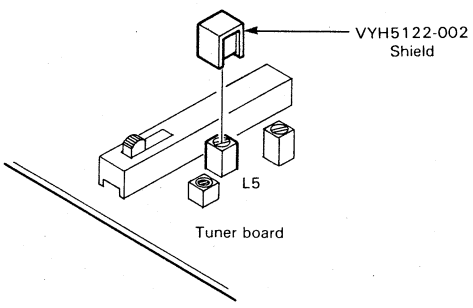
⚠	REF. NO	PARTS NO.	PARTS NAME
	CN701	QMV5004-003	CONNECTOR
	C701	QCF21HP-103	C CAPACITOR
	C702	QCF21HP-103	C CAPACITOR
	C703	QCF21HP-103	C CAPACITOR
	C704	QCF21HP-103	C CAPACITOR
	D701	S4VB10-4001	SI DIODE
	J701	QMC0361-002	AC SOCKET
	S701	QST8101-V01	PUSH SW
⚠	T701	VTP57P2-12B	POWER TRANS.
⚠	F701	QMF51U2-R63	FUSE
⚠	F702	QMF51U1-3R15	FUSE
⚠	F703	QMF51U1-3R15	FUSE



1. Power P.C. Board
2. Batt. Contact P.C. Board

■ Tuner Board


R6
E
B
R5
C16
T1
D3
C7
BPF1
CF1
Q1
C8
IC1
R1
C39
R4
R3
C15
C10
C6
C1
C2
C42
R16
D4
C14
C12
C11
C13
R2
C5
TP5
C3
L2
V.CAPACITOR
TC4 TC2
VC4 VC2
TC3 TC1
VC3 VC1
C41
R15
CF3
L1
D7
C4
L10
C38
CF2
R14
C40
C37
IC2
R81
TP3
C20
L6 (SW1←010A) (MW←010B)
H
G
FINE TU.
R7
C35
C33
C31
TC7
C23
C21
R8
C36
C30
L9
C59
C32
TC5
TC6
TC8
T2
C34
L3
C26
C24
C27
C17
C46
C45
TP6
L8
L4 (MW←010A) (LW←010B)
C53
R27
C29
L5
C22
IC3
R9
C25
R11
C28
S1
C18
S01
C47
C49
I6
C50
R21
TP8
C51
L7
R31
C55
R32
C56
R28
R13
C19
LPF1
R36
R26
R23
C48
D2
TP1
M B L R G S
R20
R24
D1
R35
CN1
R25
VR1
TP2
BAND SWITCH
FM-SW2-SW1-AM
(FM-SW-MW-LW)


VYH5122-002
Shield
L5
Tuner board

Tuner Board Parts List

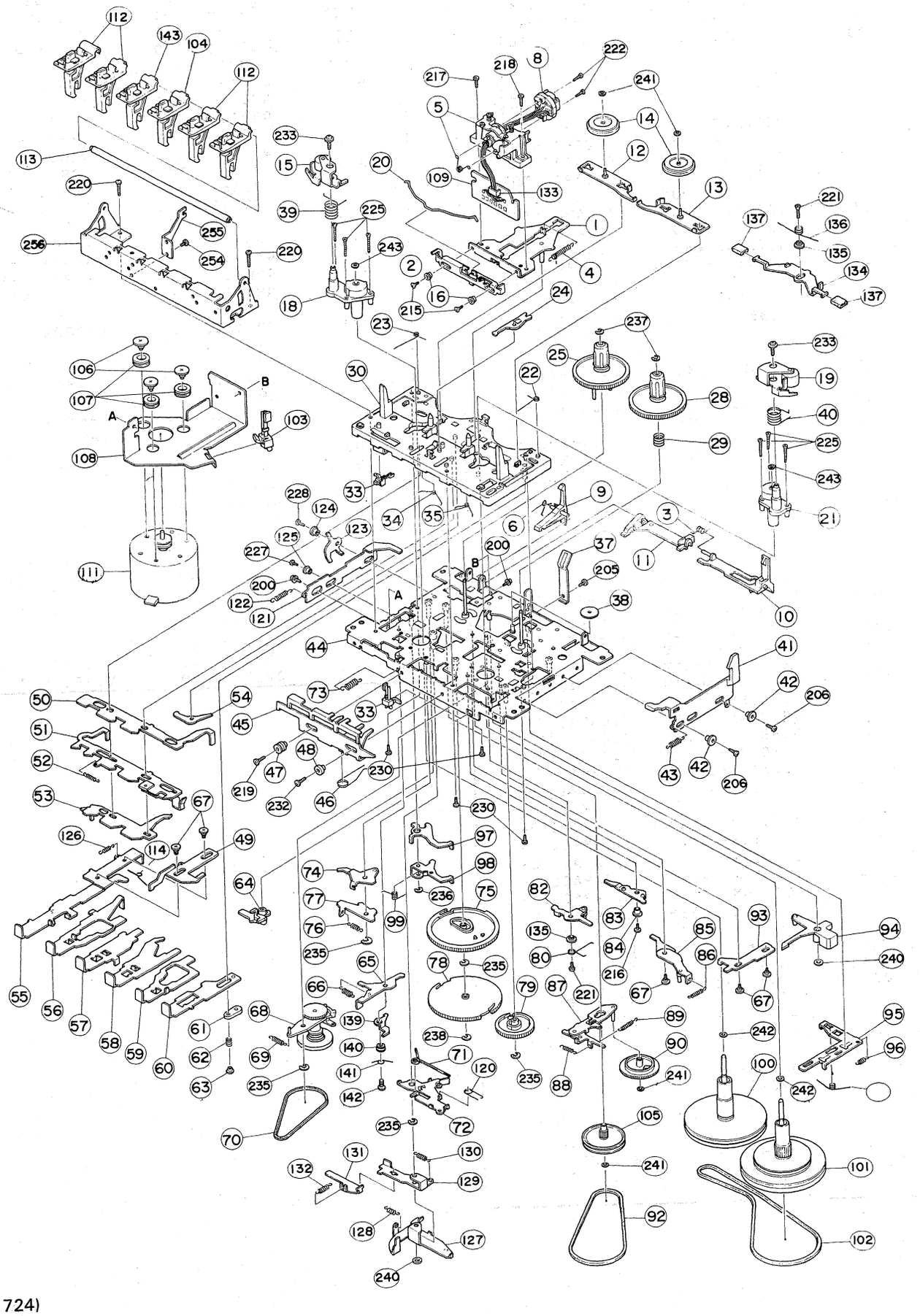
⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

⚠	REF. NO	PARTS NO.	PARTS NAME
	BPF1	VBP4M3B-004	BP FILTER
	CF123	KMFC342-M	C FILTER KIT
	CN001	E04365-006	CONNECTOR
	C001	QCS31HJ-200Z	C.CAPACITOR
	C002	QCF31HP-103Z	C.CAPACITOR
	C003	QCS31HJ-220Z	C.CAPACITOR
	C004	QCF31HP-103Z	C.CAPACITOR
	C005	QCS31HJ-150Z	C.CAPACITOR
	C006	QCF31HP-103Z	C.CAPACITOR
	C007	QCF31HP-103Z	C.CAPACITOR
	C008	QCF31HP-103Z	C.CAPACITOR
	C010	QCT30CH-180Y	C.CAPACITOR
	C011	QCT30CH-100Y	C.CAPACITOR
	C012	QCT30CH-5R6Y	C.CAPACITOR
	C013	QCT30CH-200Y	C.CAPACITOR
	C014	QCT30UJ-6R8Y	C.CAPACITOR
	C015	QCC31EM-103ZV	C.CAPACITOR
	C016	QCF31HP-103Z	C.CAPACITOR
	C017	QCSB1HK-2R2Y	C.CAPACITOR
	C018	QCBB1HK-101Y	C.CAPACITOR
	C019	QCT30CH-2R7Y	C.CAPACITOR
	C020	QCT30UJ-150Y	C.CAPACITOR
	C021	QCT30UJ-8R2Y	C.CAPACITOR
	C022	QCS31HJ-4R0Z	C.CAPACITOR
	C023	QCT30UJ-120Y	C.CAPACITOR
	C024	QCT30UJ-5R6Y	C.CAPACITOR
	C025	QCT05YL-5R0V	C.CAPACITOR
	C026	QFP31HJ-361ZM	PP.CAPACITOR
	C027	QFN31HJ-152Z	M.CAPACITOR
	C028	QCY31HK-472Z	C.CAPACITOR
	C029	QCVB1CN-103Y	C.CAPACITOR
	C030	QCS31HJ-120Z	C.CAPACITOR
	C031	QCF31HP-103Z	C.CAPACITOR
	C032	QETC1AM-476ZM	E.CAPACITOR
	C033	QETC1HM-475ZM	E.CAPACITOR
	C034	QETC1HM-105ZM	E.CAPACITOR
	C035	QCC31EM-223ZV	C.CAPACITOR
	C036	QCC31EM-223ZV	C.CAPACITOR
	C037	QCC31EM-223ZV	C.CAPACITOR
	C038	QETC1CM-106ZM	E.CAPACITOR
	C039	QETC1CM-106ZM	E.CAPACITOR
	C040	QCF31HP-103Z	C.CAPACITOR
	C041	QETC1AM-227ZM	E.CAPACITOR
	C042	QCBB1HK-331Y	C.CAPACITOR
	C046	QETC1HM-105ZM	E.CAPACITOR
	C047	QCC31EM-223ZV	C.CAPACITOR
	C048	QFP31HJ-471ZM	PP.CAPACITOR
	C049	QETC1HM-474ZM	E.CAPACITOR
	C050	QETC1HM-474ZM	E.CAPACITOR
	C051	QETC1EM-475ZM	E.CAPACITOR
	C053	QCC31EM-223ZV	C.CAPACITOR
	C054	QCC31EM-223ZV	C.CAPACITOR
	C055	QETC1HM-105ZM	E.CAPACITOR
	C056	QETC1HM-105ZM	E.CAPACITOR
	C059	QCBB1HK-101Y	C.CAPACITOR
	C061	QCS11HJ-470	C.CAPACITOR
	D003	1SS270TJ	SI DIODE
	D004	MA346-TA5	VC DIODE
	D007	1SS270TJ	SI DIODE
	IC001	TA7358P(N)	IC
	IC002	AN7222N	IC
	IC003	AN7410N	IC
	IC1	TA7358P(N)	IC
	IC2	AN7222N	IC
	IC3	AN7410N	IC
	LPF1	VQZ0020-001	L P FILTER
	L001	V03105-029	OSC COIL
	L002	VQF1B12-007	RF COIL
	L003	VQM7U01-301	OSC COIL
	L005	VQS7T01-301	OSC COIL

⚠	REF. NO	PARTS NO.	PARTS NAME
	L007	VQS7U01-302	OSC COIL
	L008	VQR7002-301	RF COIL
	L009	VQC1304-001	COIL
	L010	VQP0012-100	INDUCTOR
	L046	VQB010A-309	BAR ANTENA
	Q001	2SC1674(L)-T	TRANSISTOR
	R001	QRD161J-560Y	CARBON RESISTOR
	R002	QRD161J-220Y	CARBON RESISTOR
	R003	QRD161J-104Y	CARBON RESISTOR
	R004	QRD161J-104Y	CARBON RESISTOR
	R005	QRD161J-184Y	CARBON RESISTOR
	R006	QRD161J-471Y	CARBON RESISTOR
	R007	QRD161J-561Y	CARBON RESISTOR
	R008	QRD161J-332Y	CARBON RESISTOR
	R009	QRD161J-560Y	CARBON RESISTOR
	R011	QRD161J-222Y	CARBON RESISTOR
	R013	QRD161J-560Y	CARBON RESISTOR
	R014	QRD161J-222Y	CARBON RESISTOR
	R015	QRD161J-332Y	CARBON RESISTOR
	R016	QRD161J-102Y	CARBON RESISTOR
	R020	QRD161J-223Y	CARBON RESISTOR
	R021	QRD161J-102Y	CARBON RESISTOR
	R023	QRD161J-103Y	CARBON RESISTOR
	R024	QRD161J-103Y	CARBON RESISTOR
	R025	QRD161J-103Y	CARBON RESISTOR
	R026	QRD161J-560Y	CARBON RESISTOR
	R027	QRD161J-103Y	CARBON RESISTOR
	R028	QRD161J-471Y	CARBON RESISTOR
	R031	QRD161J-222Y	CARBON RESISTOR
	R032	QRD161J-222Y	CARBON RESISTOR
	R035	QRD161J-272Y	CARBON RESISTOR
	R036	QRD161J-272Y	CARBON RESISTOR
	S001	QSS8401-001	SLIDE SWITCH
	S1	QSS8401-001	SLIDE SWITCH
	TC5,7	QAT2002-001	T.CAPACITOR
	TC6,8	QAT2002-001	T.CAPACITOR
	T001	VQT7F12-108	IFT
	T2	VQT7A21-103	IFT
	VC1	QAP1224-520V	V.CAPACITOR
	VR001	QVZ3512-502	V.RESISTOR

10 Exploded View of Mechanism Assembly

■ [Cassette Deck]



Cassette Deck Component Parts List (1/3)

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	1	186502502ZT	H.PANEL ASS'Y	HEAD PANEL	1
	2	18650218T	CHP LEVER		1
	3	18650137T	TORSION SPRING		1
	4	18650211T	SPRING	FOR HEAD PANEL	1
	5	186502304ZT	HEAD BASE ASS'Y		1
	6	18650136T	TORSION SP.		1
	8	62010188T	R/P&E HEAD		1
	9	18650129T	REC S.LEVER (F)	FOR REC SAFETY	1
	10	18650130T	REC S.LEVER(R1)		1
	11	18650131T	REC S.LEVER(R2)		1
	12	186505502ZT	T.PLATE ASS'Y	FOR REV.	1
	13	186505501ZT	T.PLATE ASS'Y	FOR FWD.	1
	14	186505301T	T.ROLLER		1
		186505301T	T.ROLLER		1
	15	186504306ZT	P.ROLL.ARM ASY.	FOR REV.	1
	16	18650228T	COLLAR	FOR CHP.LEVER	2
	18	186509315ZT	FL METAL ASS'Y	FOR REV.	1
	19	186504305ZT	P.ROLL.ARM ASY.	FOR FWD.	1
	20	18650420T	P.ROLL.SPRING		1
	21	186509314ZT	FL METAL ASS'Y	FOR FWD.	1
	22	18650510T	T.ROLLER SPRING	FOR FWD	1
	23	18650511T	T.ROLLER SPRING	FOR REV.	1
	24	18652205T	CONTROL LEVER		1
	25	186505310ZT	REEL D.ASS'Y	FOR REV.	1
	28	186505311ZT	R.DISK ASS'Y	FOR FWD.	1
	29	18650532T	SPRING	FOR BACK TENTION	1
	30	18651401T	MAIN BASE		1
	33	640101129T	LEAF SWITCH		1
		640101129T	LEAF SWITCH		1
	34	18651432T	BUTTON L.SPRING	FOR FF-REW	1
	35	18651455T	BUTTON L.SPRING	FOR PAUSE-STOP	1
	37	18650102T	PACK SPRING		1
	38	18650120T	FF GEAR		1
	39	18650421T	SPRING	FOR P.ROLL.ARM	1
	40	18650422T	SPRING	FOR FWD.ARM	1
	41	18651301T	SLIDE LEVER	FOR EJECT	1
	42	18651302T	COLLAR		2
	43	18651309T	SPRING		1
	44	186501508ZT	CHASSIS ASS'Y		1
	45	18652232T	CH SLIDE LEVER		1
	46	18652236T	CH GEAR SPRING		1
	47	18652240T	CH COLLAR A	M2 X 3	1
	48	18652241T	CH COLLAR B		1
	49	18652227T	REC S.LEVER	FOR REC SENSOR	1
	50	18651429T	PC STOPPER		1
	51	186514504ZT	BUTTON CAM ASSY		1
	52	18651463T	SPRING	FOR BUTTON CAM	1
	53	18651407T	SWITCH CAM		1
	54	18651428T	RWD LEVER		1
	55	18651453T	REC BUTTON LEV.	FOR REC	1
	56	18651466T	PLAY BUT.LEVER	FOR PLAY	1
	57	18651418T	BUTTON LEVER	FOR REW	1
	58	18651419T	BUTTON LEVER	FOR FF	1
	59	18651420T	BUTTON LEVER	FOR STOP	1
	60	186514501ZT	B.LEVER ASS'Y	FOR PAUSE BUTTON	1
	61	18210115T	PAUSE LEVER		1
	62	18210116T	LEVER SPRING	FOR PAUSE	1
	63	18210134T	PAUSE STOPPER		1
	64	18652237T	MODE LEVER		1
	65	18652230T	D.S.S.PLATE	FOR D.S.SENSING	1

(2/3)

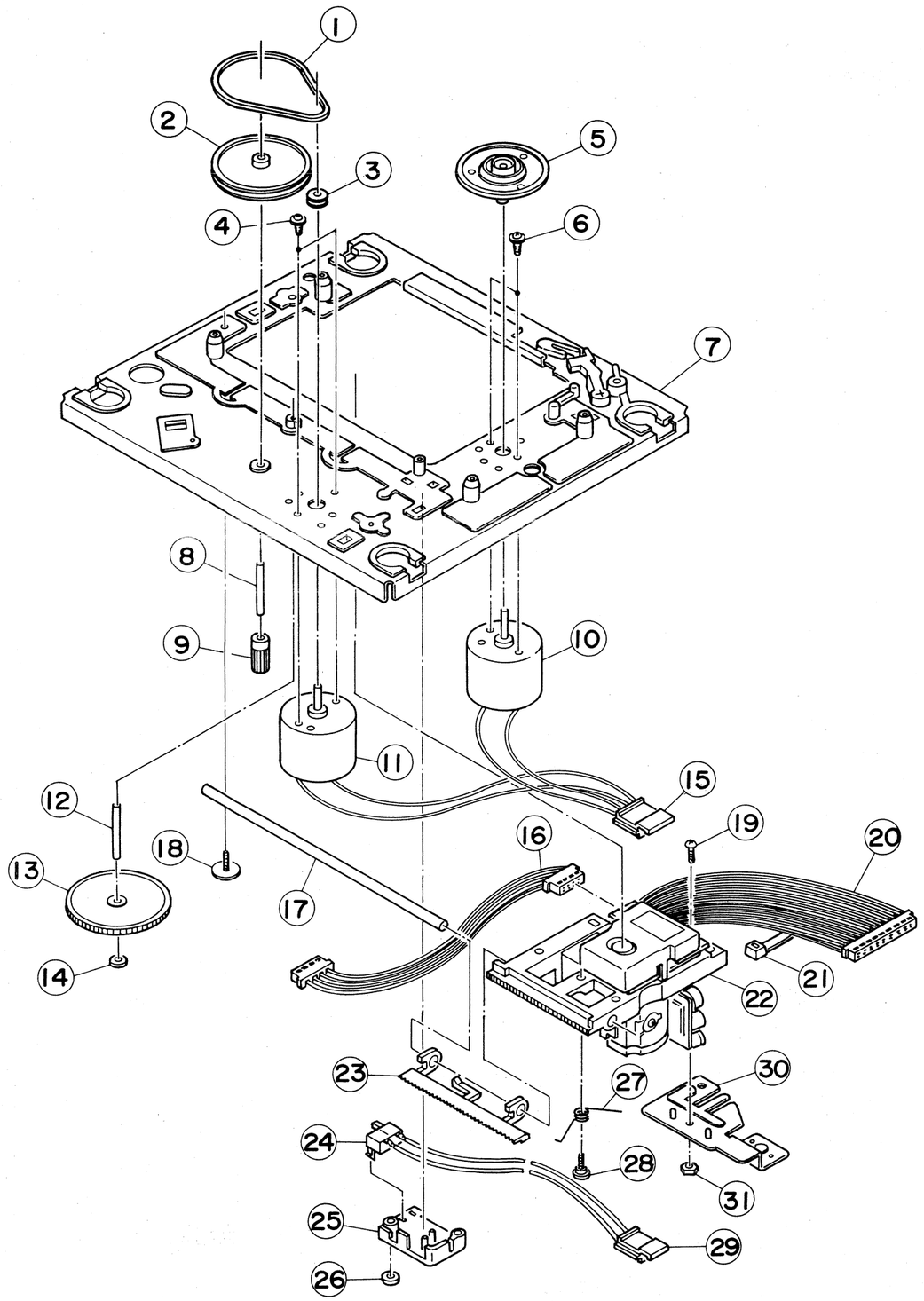
⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	66	09401003T	SPRING		1
	67	18651121T	COLLAR SCREW		2
		18651121T	COLLAR SCREW		1
		18651121T	COLLAR SCREW		2
	68	186507304ZT	RF CLUTCH ASS'Y		1
	69	18001143T	SPRING		1
	70	18650712T	BELT	FOR FF/REW	1
	71	18652104T	LIFT SPRING		1
	72	186521502ZT	LIFT ARM ASS'Y		1
	73	18652119T	SPRING		1
	74	186521501ZT	M.T.ARM ASS'Y	TRIGGER	1
	75	18652114T	M GEAR		1
	76	18652118T	SPRING		1
	77	18652113T	M TRIG. ARM B		1
	78	18652238T	CH GEAR		1
	79	18651701T	P GEAR		1
	80	18651708T	SPRING	FOR PLAY TRIGER	1
	82	186517502ZT	P.T.ARM ASS'Y	PLAY TRIGGER	1
	83	18651709T	RF TRIGGER ARM		1
	84	18651710T	RF COLLAR		1
	85	186517501ZT	P.A.ARM ASS'Y	PAUSE ACTUATOR	1
	86	17001613T	SPRING	FOR ACTUATOR ARM	1
	87	186511501ZT	PLATE ASS'Y	CAM GEAR	1
	88	18651113T	SPRING	FOR SENSER PLATE	1
	89	18651112T	SPRING	FOR CAM G.PLATE	1
	90	18651102T	CAM GEAR		1
	92	18651124T	BELT	FOR AUTO STOP	1
	93	18651109T	RF LEVER		1
	94	18651103T	SENSING PLATE		1
	95	18651114T	CONTROL LEVER		1
	96	18651111T	SPRING		1
	97	18652231T	STOP LEVER		1
	98	18652229T	D.S.S.LEVER	FOR D.S.SENSING	1
	99	18652235T	SPRING		1
	100	186509328ZT	FLYWHEEL ASS'Y	FOR REV.	1
	101	186509329ZT	FLYWHEEL ASS'Y	FOR FWD. (WITH GEAR)	1
	102	18650909T	MAIN BELT		1
	103	640101114T	LEAF SWITCH	FOR PLAY	1
	104	18651454T	OPERATION LEVER		1
	105	18651123T	BELT		1
	106	18211202T	COLLAR SCREW	FOR MOTOR	3
	107	18201306T	RUBBER CUSHION	FOR MOTOR	3
	108	18650950T	MOTOR BRACKET		1
⚠	109	18650230T	P.C.BOARD		1
	111	186509345ZT	MOTOR ASS'Y		1
	112	18651425T	OPERATION LEVER		4
	113	18293103T	LEVER SHAFT		1
	114	18651471T	BUTTON LEVER SP	FOR REC-PLAY	1
	120	18652115T	TORSION SPRING	TORSION	1
	121	18652226T	REC C.LEVER	FOR REC CHANGE	1
	122	18652248T	SPRING		1
	123	18652228T	M KICK LEVER		1
	124	18652239T	COLLAR		1
	125	18200806T	COLLAR		1
	126	18400245T	SPRING		1
	127	186522504ZT	CH LEVER ASS'Y	FOR CHANGE LEVER (H)	1
	128	18652246T	SPRING		1
	129	18652244T	CH LEVER(J)		1
	130	18521711T	SPRING		1

Cassette Deck Component Parts List (3/3)

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	131	18652245T	CH LEVER(K)		1
	132	18652247T	SPRING		1
	133	18650965T	CODE CLAMPER		1
	134	18651601T	BRAKE ARM		1
	135	18651604T	COLLAR		1
		18651604T	COLLAR		1
	136	18651602T	BRAKE SPRING		1
	137	18200917T	BRAKE RUBBER		2
	138	18651115T	TORSION SPRING	TORSION	1
	139	18652253T	M SWITCH LEVER		1
	140	18652254T	COLLAR		1
	141	18652255T	SPRING		1
	142	99991807T	MINI SCREW	M2 X 4.5	1
	143	18651480T	OPERATION LEVER		1
	200	90760000T	SCREW	M2 X 3	2
	205	91780000T	TH.TAP.SCREW	FOR PACK SPRING	1
	206	91810000T	TH.TAP SCREW	M2 X 5	2
	215	95470000T	MINI SCREW	M1.7 X 3	2
	216	95610000T	MINI SCREW	M2 X 3.5	1
	217	98300000T	MINI SCREW		1
	218	98250000T	MINI SCREW	M2 X 5.5	1
	219	98300000	MINI SCREW	M2 X 6	1
	220	99870000T	MINI SCREW		2
	221	98090000T	CAMERA SCREW		1
		98090000T	CAMERA SCREW	M2 X 3.5	1
	222	18650235T	SPECIAL SCREW		2
	225	98980000T	MINI SCREW	M2 X 8.5	3
		98980000T	MINI SCREW	M2 X 8.5	3
	227	98990000T	TH TAP SCREW	M2 X 3.5	1
	228	95600000T	SPECIAL SCREW	M2 X 5.5	1
	230	96740000T	TAPPING SCREW	M2 X 6	4
	232	92190000T	CAP SCREW	M2 X 6	1
	233	99992001T	CAP SCREW	M2 X 6	1
		99992001T	CAP SCREW	M2 X 6	1
	235	95020000T	E.RING	OR REE2000	1
		95020000T	E.RING	OR REE2000	1
		95020000T	E.RING	OR REE2000	1
		95020000T	E.RING	OR REE2000	1
		95020000T	E.RING	OR REE2000	1
	236	95000000T	E.RING	OR REE1500	1
	237	94860000T	E.RING	OR REE1500	1
		94860000T	E.RING	OR REE1500	1
	238	94970000T	E.RING	OR REE1500	1
	240	97440000T	P.WASHER		1
		97440000T	P.WASHER	2.1 X 5 X 0.4T	1
	241	94210000T	P.WASHER	1.2 X 3 X 0.25T	1
		94210000T	P.WASHER		1
		94210000T	P.WASHER	1.2 X 3 X 0.25T	1
		94210000T	P.WASHER		1
	242	97860000T	P.WASHER	2 X 3.5 X 0.3T	1
		97860000T	P.WASHER	2.2 X 3.5 X 0.3T	1
	243	97870000T	P.WASHER	1.55 X 5 X 0.5T	1
		97870000T	P.WASHER	1.55 X 5 X 0.5T	1
	254	91790000T	TAPPING SCREW		1
	255	18651431T	SHAFT STOPPER		1
	256	18651479T	BUTTON FRAME		1

■ **[CD Player]**

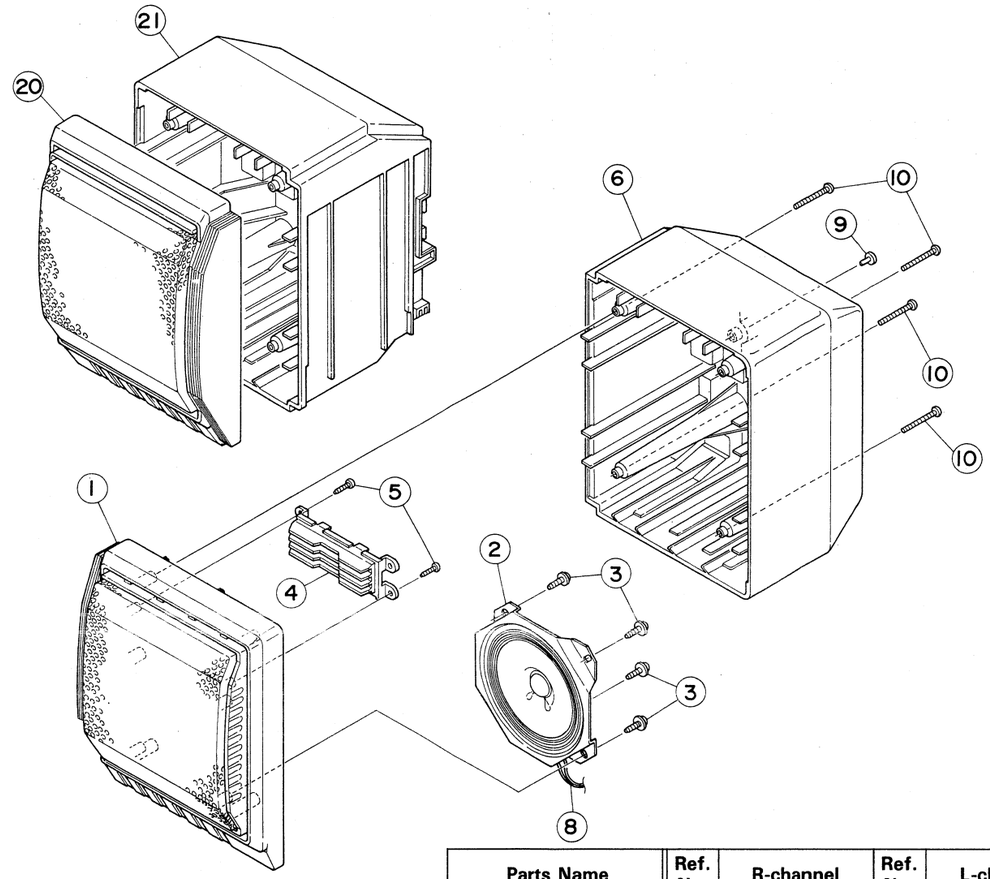


CD Player Component Parts List (Mechanism Ass'y)

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

⚠	Ref. No.	Parts Number	Parts Name	Description	Q'ty
	1	E69879-003	Belt		1
	2	E73063-001	Pully (F)		1
	3	E73060-001	Motor Pully		1
	4	E72963-203	Screw	with Washer	2
	5	E73560-002	Turn Table		1
	6	E72963-203	Screw	with Washer	2
	7	E11371-001	Base Ass'y		1
	8	E71731-003	Shaft		1
	9	E73064-002	Feed Gear (A)		1
	10	RF-310T-10470	Motor	for Turn Table	1
	11	RF-310TA-10470	〃	for Laser Pick Up Drive	1
	12	E71731-003	Shaft		1
	13	E73700-001	Feed Gear		1
	14	E72024-001	Speed Nut		1
	15	EWS014-127	Wire With Plug		1
	16	EWS254-B106	〃		1
	17	E73066-001	Shaft for Feed		1
	18	E65923-003	Screw	with Washer	1
	19	SPSP2608Z	〃		1
	20	EWS25C-B105	Wire With Plug		1
	21	E33754-001	Wire Band		1
	22	OPTIMA-2	Loser Pick up Unit		1
	23	E304196-001	Sub Rack Gear		1
	24	QSP2K11-E01	Push Switch		1
	25	E304613-001	Switch Cover		1
	26	E60912-001	Speed Nut		1
	27	E73851-001	Torsion Spring		1
	28	E73035-002	Special Screw		1
	29	ESW013-237	Wire With Plug		1
	30	E304439-001	Base Ass'y for Pick Up		1
	31	NNS2600Z	Nut		1

11 Exploded View of Speaker Assembly



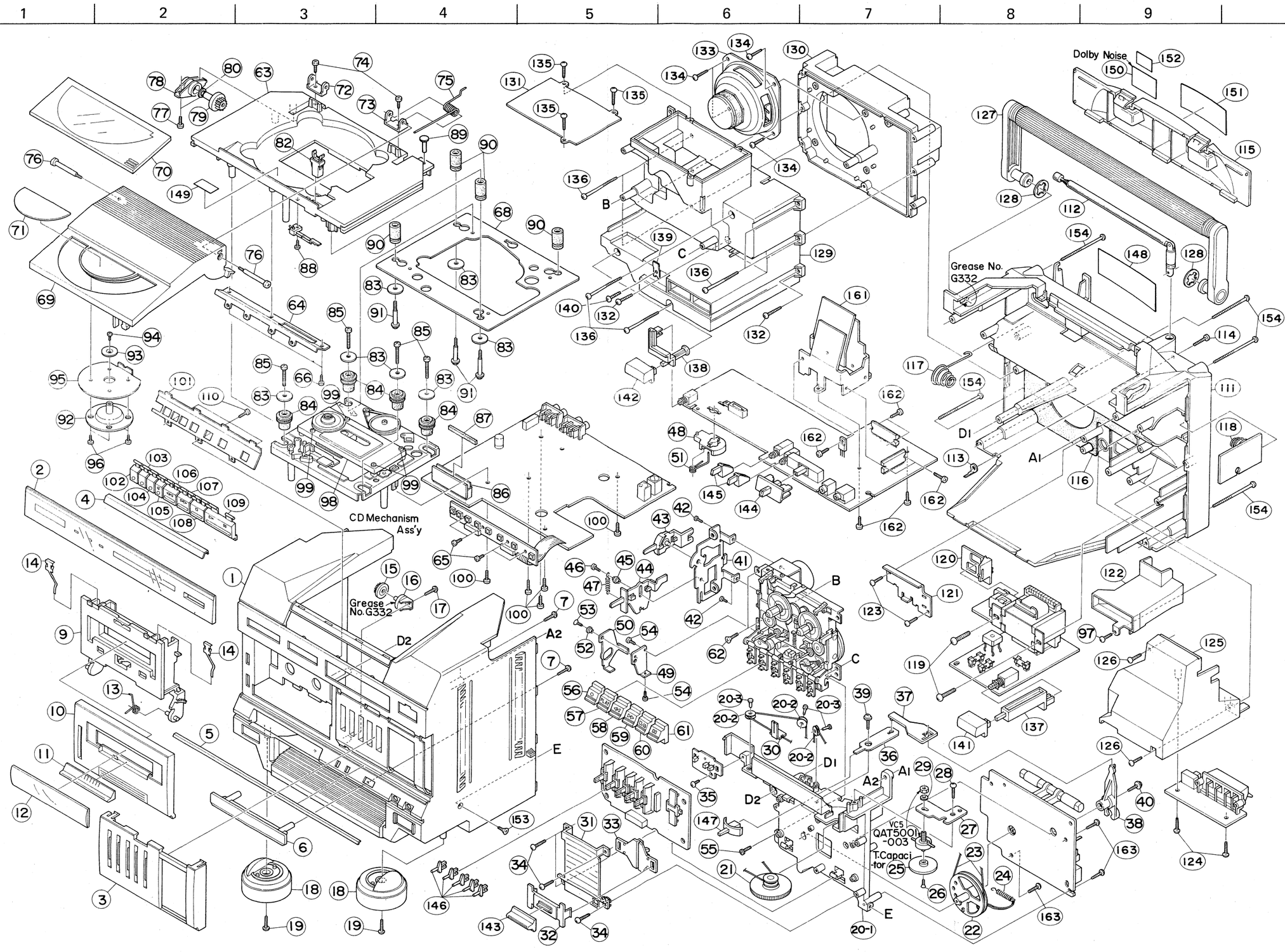
Parts Name	Ref. No.	R-channel	Ref. No.	L-channel
FRONT PANEL Ass'y	1	VJC2297-00A	20	VJC2298-00A
REAR PANEL Ass'y	6	VJC1603-001	21	VJC1604-001

Speaker System Parts List

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	1	VJC2297-00A	FRONT PANEL	RIGHT	1
	2	EAS10P268G	SPEAKER		1
	3	GBSF3010Z	SCREW		4
	4	VJD3675-001	GRILL		1
	5	SBSF2610Z	SCREW		2
	6	VJC1603-001	REAR CABINET	RIGHT	1
	8	VMP0040-001N	SPEAKER CODE		1
	9	TEP357469-02	STOPPER		1
	10	SBSF3020Z	SCREW		4
	20	VJC2298-00A	FRONT PANEL	LEFT	1
	21	VJC1604-001	REAR PANER	LEFT	1

12 Exploded View of Enclosure Assembly



Enclosure Component Parts List (1/3)

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	1	VJC1599-001UL	FRONT CABINET		1
	2	VJK3391-001	DIAL LENS		1
	3	VJD2312-001	SEA COVER		1
	4	VJD5068-001	CD PLATE		1
	5	VJD5069-001	CONTROL PLATE		1
	6	VJD5066-001	ESCUTCHEON		1
	7	SSSF3010Z	SCREW		2
	9	VJT2149-001	CASSETTE DOOR		1
	10	VJT2150-001	DOOR COVER		1
	11	VJT4140-00A	DOOR PLATE ASSY		0
	12	VJT3219-001	DOOR LENS		1
	13	VKW4660-001	DOOR SPRING		1
	14	VKY4180-001	CASSETTE SPRING		2
	15	VYH5601-001	GEAR		1
	16	VYH5602-001	DAMP HOLDER		1
	17	SBSF3012Z	SCREW		1
	18	VJD5067-001	FOOT		2
	19	GBSF3010Z	TAP SCREW		2
	20	VYH2194-00A	T.SUB CHA ASS'Y		1
	20-1	VYH1163-001	TUNER CHASSIS		1
	20-2	V40409-2	ROLLER		3
	20-3	VYH4034-003	STUD		3
	21	VXL4259-002	TUNING KNOB		1
	22	VYH5786-002	DRUM		1
	23	VHR2ZK9-05AT	DIAL ROPE		1
	24	E45679-001	SPRING		1
	25	VXL4187-003	KNOB	FOR FINE TUNING	1
	26	SSSP2004Z	SCREW		1
	27	VYH6482-002	BRACKET		1
	28	SBSF3010Z	SCREW		1
	29	WNS5000N	WASHER		1
	30	VJN4115-001	POINTER		1
	31	VYH3418-001	VOLUME BASE		1
	32	VYH6456-001	VOLUME GUIDE		1
	33	VYH6457-001	VOLUME HOLDER		1
	34	SBSF3010Z	SCREW	FOR VOLUME BASE	4
	35	GBSF3010Z	TAP SCREW		1
	36	VYH6459-001	KNOB HOLDER		1
	37	VYH6460-001	KNOB LEVER		1
	38	VYH3414-001	TOGGLE LEVER		1
	39	GBSF3012Z	TAP SCREW		1
	40	GBSF3012Z	TAP SCREW		1
	41	VYH3426-001	MECHA.BRACKET		1
	42	SDST2004Z	SCREW	FOR MECHA.BRACKET	2
	43	VXQ4098-001	MODE LEVER		1
	44	VXS3022-001	DIRECTION LEVER		1
	45	VYH5833-002	COLLAR		1
	46	SDST2606Z	SCREW		1
	47	VKW4681-001	SPRING		1
	48	VYH6465-001	REC LEVER	#REC	1
	49	VYH6466-001	REC HOLDER		1
	50	VYH6514-001	REC BRACKET		1
	51	VKW4673-001	REC SPRING		1
	52	VKH3013-027	FLANGE COLLAR		1

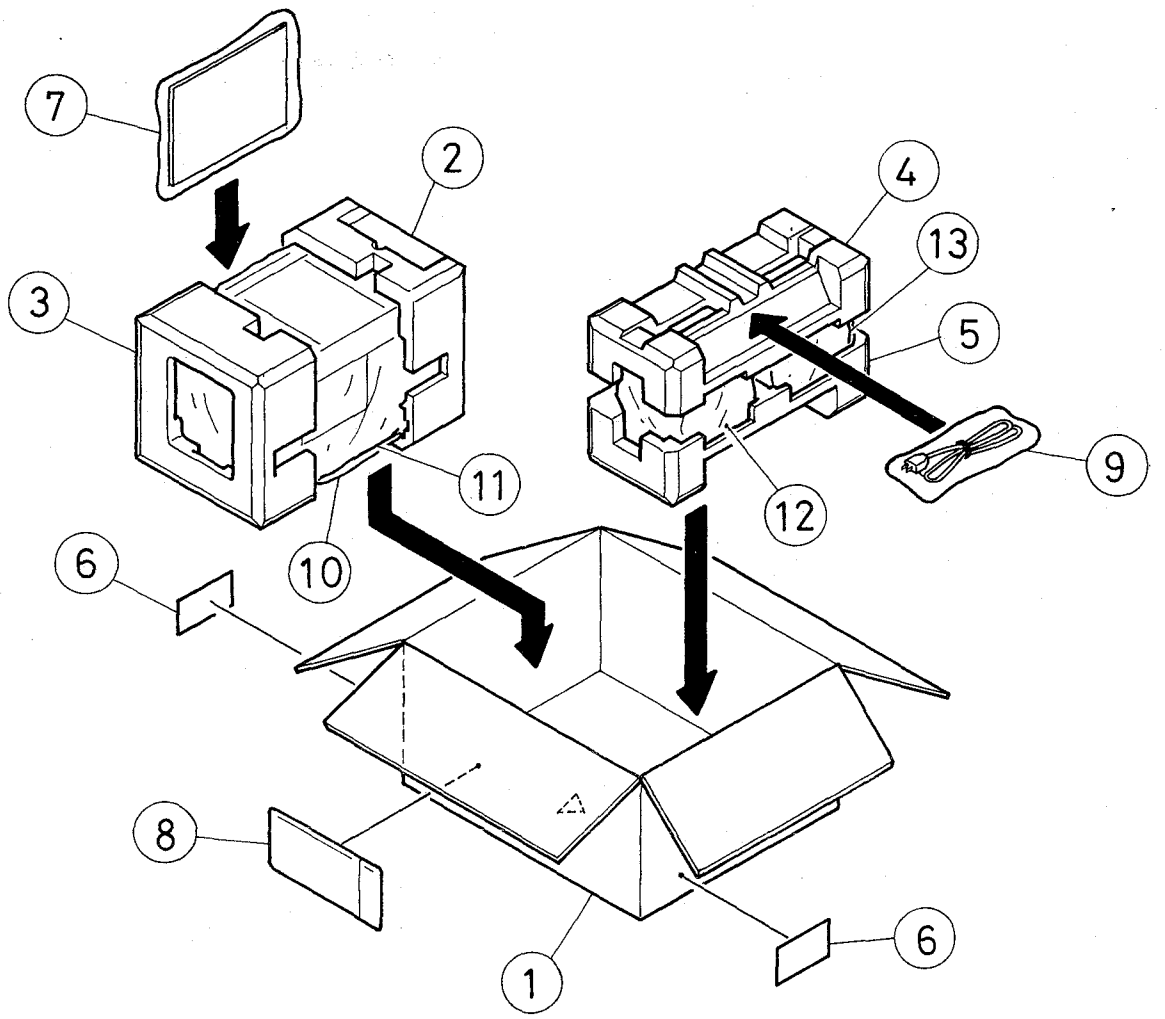
Enclosure Component Parts List (2/3)

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	53	SSSP2004Z	SCREW		1
	54	SDST2604Z	SCREW		2
	55	SBSF3014Z	SCREW		1
	56	VXP3201-001	BUTTON(REC)		1
	57	VXP3201-002	BUTTON(PLAY)		1
	58	VXP3201-003	BUTTON(REW)		1
	59	VXP3201-004	BUTTON(FF)		1
	60	VXP3201-005	BUT(STOP/EJECT)		1
	61	VXP3201-006	BUTTON(PAUSE)		1
	62	SSSF3012Z	TAP SCREW		2
	63	VJD1127-001	CD CHASSIS		1
	64	VYH3428-001	SWITCH BRACKET		1
	65	SDST2604Z	SCREW		4
	66	SDSF2606Z	SCREW		3
	68	VYH3425-001	CD BASE		1
	69	VJD1128-001	CD DOOR		1
	70	VJD3676-001	CD LENS		1
	71	VJD5058-001	PLATE		1
	72	VYH6362-001	BRACKET		1
	73	VYH6362-002	BRACKET		1
	74	SDSF3008M	SCREW	FOR BRACKET	2
	75	VKW4661-001	CD DOOR SPRING		1
	76	VKZ4380-001	SPECIAL SCREW		2
	77	SBSF3010Z	SCREW	FOR DAMP HOLDER	2
	78	VYH4845-001	DAMPER HOLDER		1
	79	VYH4769-001	GEAR		1
	80	VYSS201-008	SPACER		1
	82	VJY4025-00A	LATCH		1
	83	Q03091-109	WASHER		7
	84	VYH6470-001	CUSHION(A)		4
	85	VKZ4380-002	SPECIAL SCREW		4
	86	VYH6484-001	LCD HOLDER		1
	87	VYSH102-041	SPACER		1
	88	SSSF2606Z	SCREW	FOR LEAF SWITCH	1
	89	RTA3020	RIVET		1
	90	VYH6471-001	CUSHION(B)		4
	91	VKZ4380-003	SPECIAL SCREW		3
	92	VYH6443-00A	CLAMPER ASS'Y		1
	93	VYH6474-001	CLAMPER PLATE		1
	94	SDSF2006Z	SCREW		1
	95	VYH6445-003	CLAMPER COVER		1
	96	SDSF2006M	SCREW	FOR CLAMPER	6
	97	SBSF3010Z	SCREW		1
	98	VJD5034-001	PICK COVER		1
	99	SDSF2006M	SCREW	FOR PICK COVER	4
	VC5	QAT5001-003	T.CAPACITOR		1
	100	SBSF3010Z	SCREW	FOR CD AMP	5
	101	VYH3419-001	BUTTON HOLDER		1
	102	VXP3202-001	CD BUTTON	MEMORY	1
	103	VXP3202-002	CD BUTTON	REMAIN	1
	104	VXP3202-003	CD BUTTON	INTRO/SCAN	1
	105	VXP3202-004	CD BUTTON	REPEAT	1
	106	VXP3202-005	CD BUTTON	SKIP/SEARCH	1
	107	VXP3212-006	CD BUTTON	SKIP/SEARCH	1

Enclosure Component Parts List (3/3)

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	108	VXP3213-007	CD BUTTON	STOP/CLEAR	1
	109	VXP3214-008	CD BUTTON	PLAY/PAUSE	1
	110	SSSF2605Z	SCREW		3
	111	VJC1600-001UL	REAR CABINET		1
	112	VJA3006-00D	TELESCOPIC ANT.		1
	113	VYH5012-004	TERMINAL LUG	FOR ANTENNA	1
	114	SDSP3010R	SCREW	FOR ANTENNA	1
	115	VJC2292-001	BATTERY COVER		1
	116	VYH3436-001	3D SPACER		1
	117	VYH5657-001	BATTERY SPRING		1
	118	VYH5483-001	SPRING		1
	119	SBSF4020Z	SCREW		2
	120	VYH6476-001	AC SLIDER		1
	121	VYH6477-001	AC BRACKET		1
	122	VYH3433-001	DUCT(B)		1
	123	SBSF3010Z	SCREW		2
	124	SBSF3012Z	SCREW		2
	125	VYH2200-001	DUCT(A)		1
	126	SBSF3010Z	SCREW		2
	127	VJH4092-00A	HANDLE ASS'Y		1
	128	VYTT490-001	WASHER		2
	129	VYH1164-001	3D COVER		1
	130	VYH2198-001	3D BASE		1
	131	VYH6501-001	PLATE		1
	132	SBSF3014Z	SCREW		2
	133	EAS10PL429A	SPEAKER		1
	134	GBSF3010Z	TAP SCREW		4
	135	SBSF3010Z	SCREW		3
	136	SBSF3045Z	SCREW		7
	137	VYH3422-001	REMOTE BAR	FOR POWER	1
	138	VYH6500-001	REMOTE BAR	FOR 3D SYSTEM	1
	139	VYH6438-002	BRACKET		1
	140	SSSF3012Z	TAP SCREW		1
	141	VXP4647-001	PUSH BUTTON	FOR POWEER	1
	142	VXP4647-002	PUSH BUTTON	FOR 3D SYSTEM	1
	143	VXS4236-002	VOLUME KNOB		1
	144	VXS4237-001	SLIDE KNOB	FOR FUNCTION	1
	145	VXP4649-001	PUSH BUTTON	FOR DOLBY NR	2
	146	VXS4241-00A	SEA KNOB ASSY		5
	147	VXS4238-001	BAND KNOB		1
	148	VYN7037-001	NAME PLATE	PC-V2J	1
	149	VND4199-003	CAUTION LABEL		1
	150	VND4284-001	LABEL	FOR DOLBY NR	1
	151	VND4285-002	CAUTION LABEL	FOR HHS	1
	152	VND4887-001	CAUTION LABEL		1
	153	SSSF3012R	SCREW		1
	154	SBSF3045Z	SCREW		5
	161	VYH3435-001	HEAT SINK		1
	162	SDST3008Z	SCREW		7
	163	GBSF3010Z	TAP SCREW		4

13 Packing



Packing Parts List

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

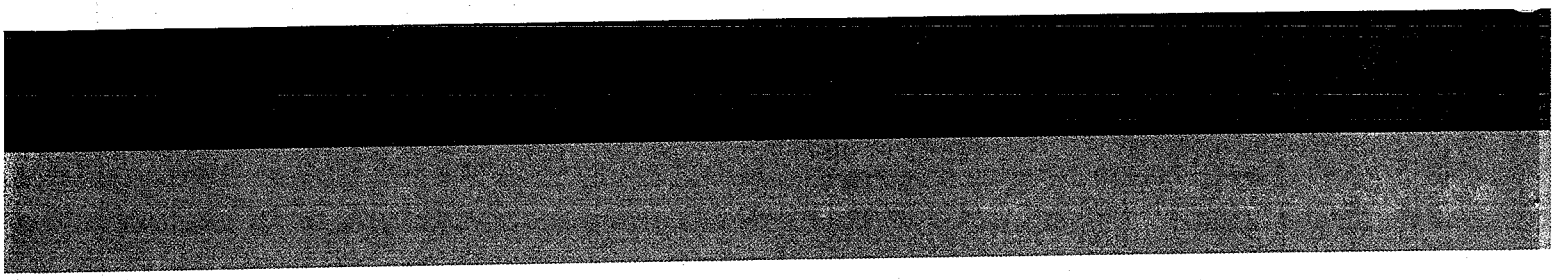
⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	1	VPC7037-001	CARTON		1
	2	VPH1404-001	CUSHION(R)	RIGHT	1
	3	VPH1404-002	CUSHION(L)	LEFT	1
	4	VPH1405-001	CUSHION(T)	TOP	1
	5	VPH1405-002	CUSHION(B)	BOTTOM	1
	6	T43758-003	SERIAL TICKET		2
	7	VPE3005-007	POLY BAG	FOR INSTRUCTION BOOK	1
	8	E66416-003	ENVELOPE	FOR WWARRANTY CARD	1
	9	QPGA012-02505	POLY BAG	FOR POWER CORD	1
	10	VPE3005-026	POLY BAG	FOR RECEIVER	1
	11	VPK4002-016	SHEET	FOR RECEIVER	1
	12	VPE3005-016	POLY BAG	FOR SPEAKER	2
	13	VPK4002-016	SHEET	FOR SPEAKER	2

14 Accessories

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	1	VNN7037-611	INST BOOK		1
	2	BT20047C	WARRANTY CARD		1
	3	BT20046C	SPECIAL REPL		1
	4	BT20044E	SAFETY GUIDE		1
	5	E70570-001	CUSTOMER CARD		1
	6	E70571-001	DISTRIBUT CARD		1
	7	E70572-001	DEALER CARD		1
	8	A76332-2	CUSTOMER SHEET		1
	9	QMP1940-183	POWER CORD		1

PC-V2 J



JVC

VICTOR COMPANY OF JAPAN, LIMITED
AUDIO PRODUCTS DIVISION MAEBASHI PLANT 10-1, 1-chome, Ohwatari-cho, Maebashi-city, Japan

(No. 1724)

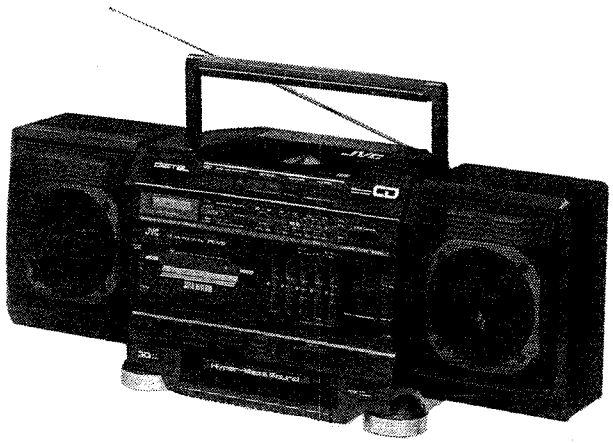
Printed in Jap
—6203—O—

JVC

SERVICE MANUAL

CD PORTABLE SYSTEM

MODEL PC-V2



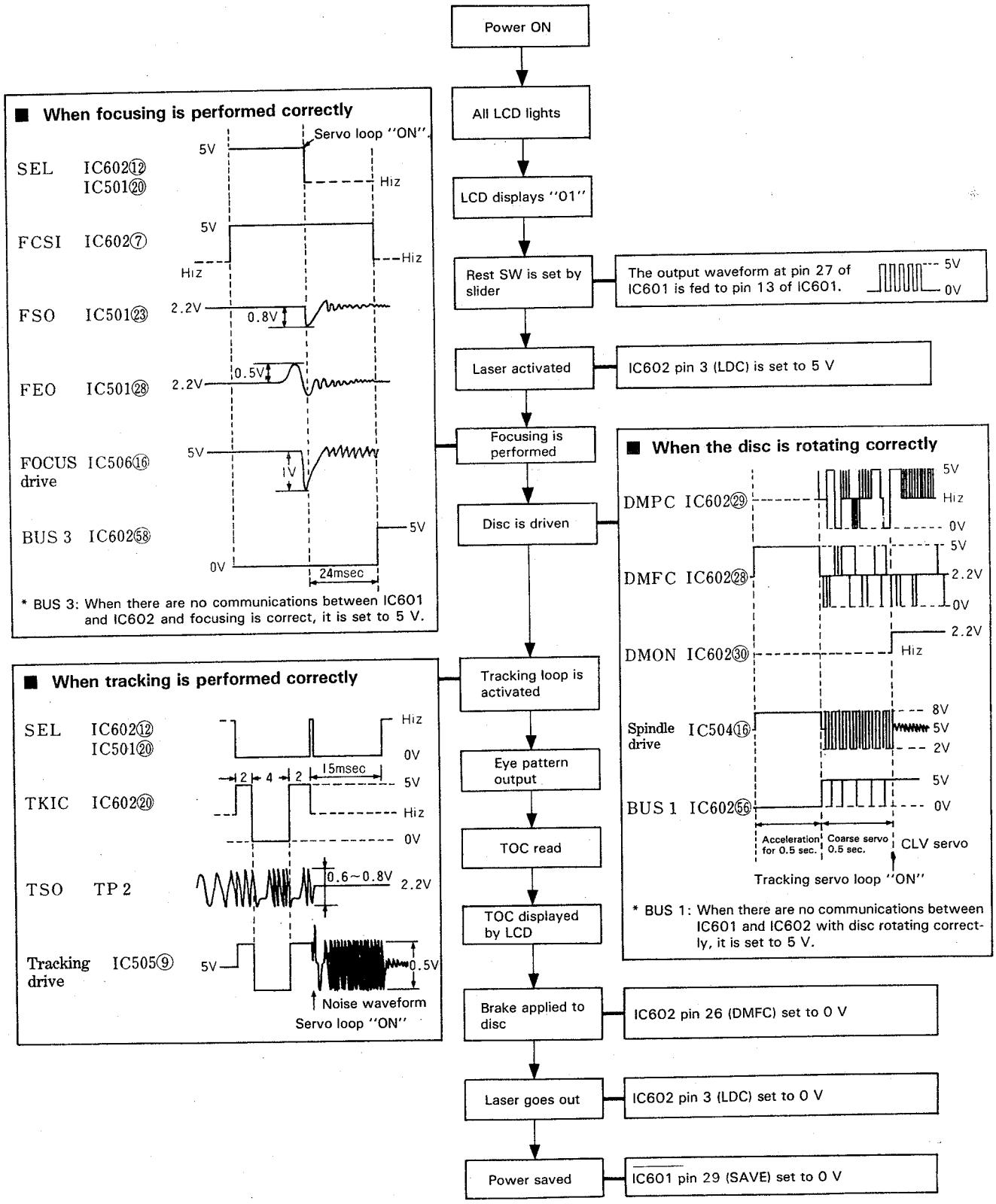
CD Repair Manual

Contents

No. 1724
March 1987

Outline of TOC Read

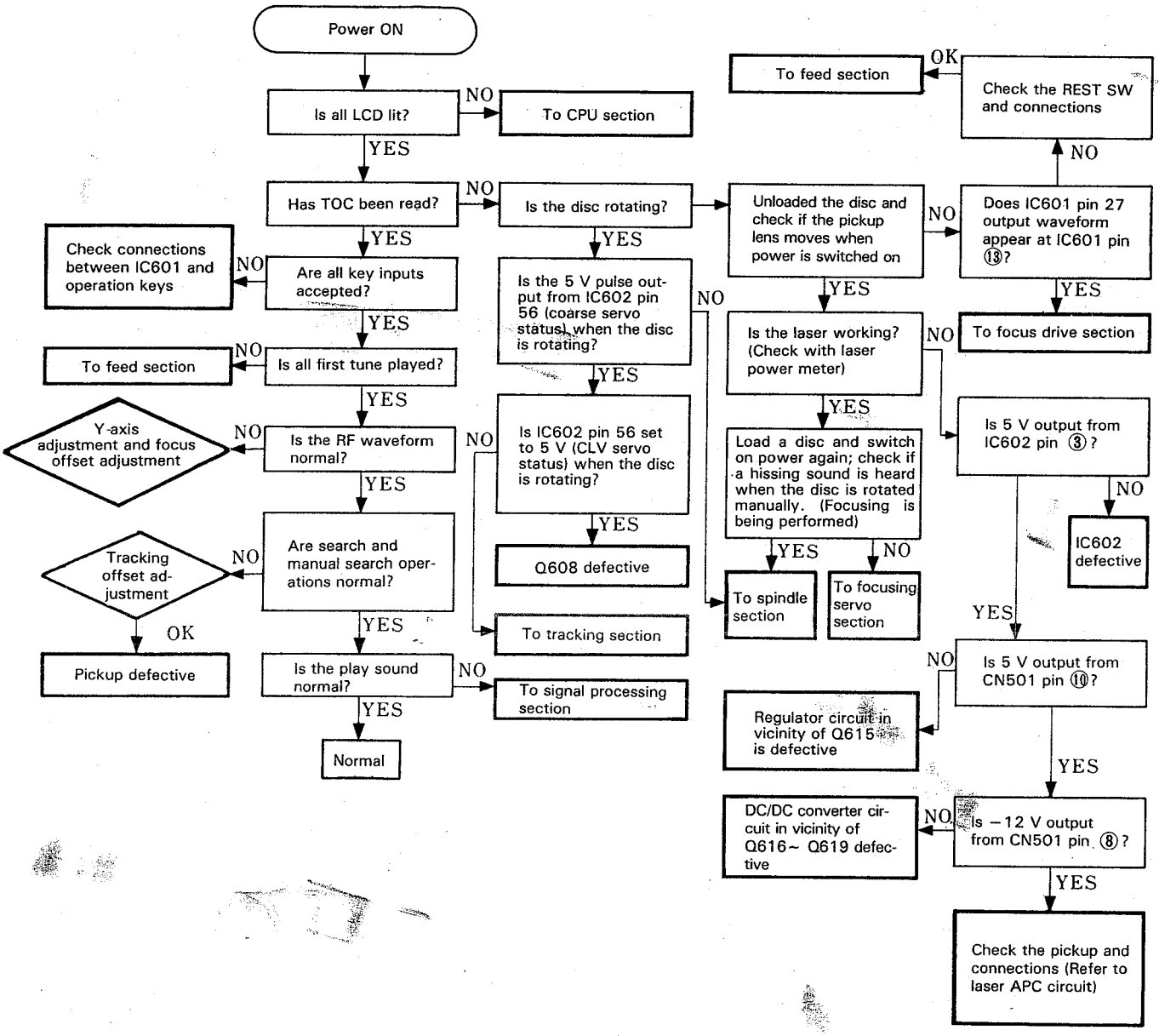
■ **The following explains TOC read.**



* **Hiz is the abbreviation used in illustrations to show high impedance.**

How to Repair

■ Overall

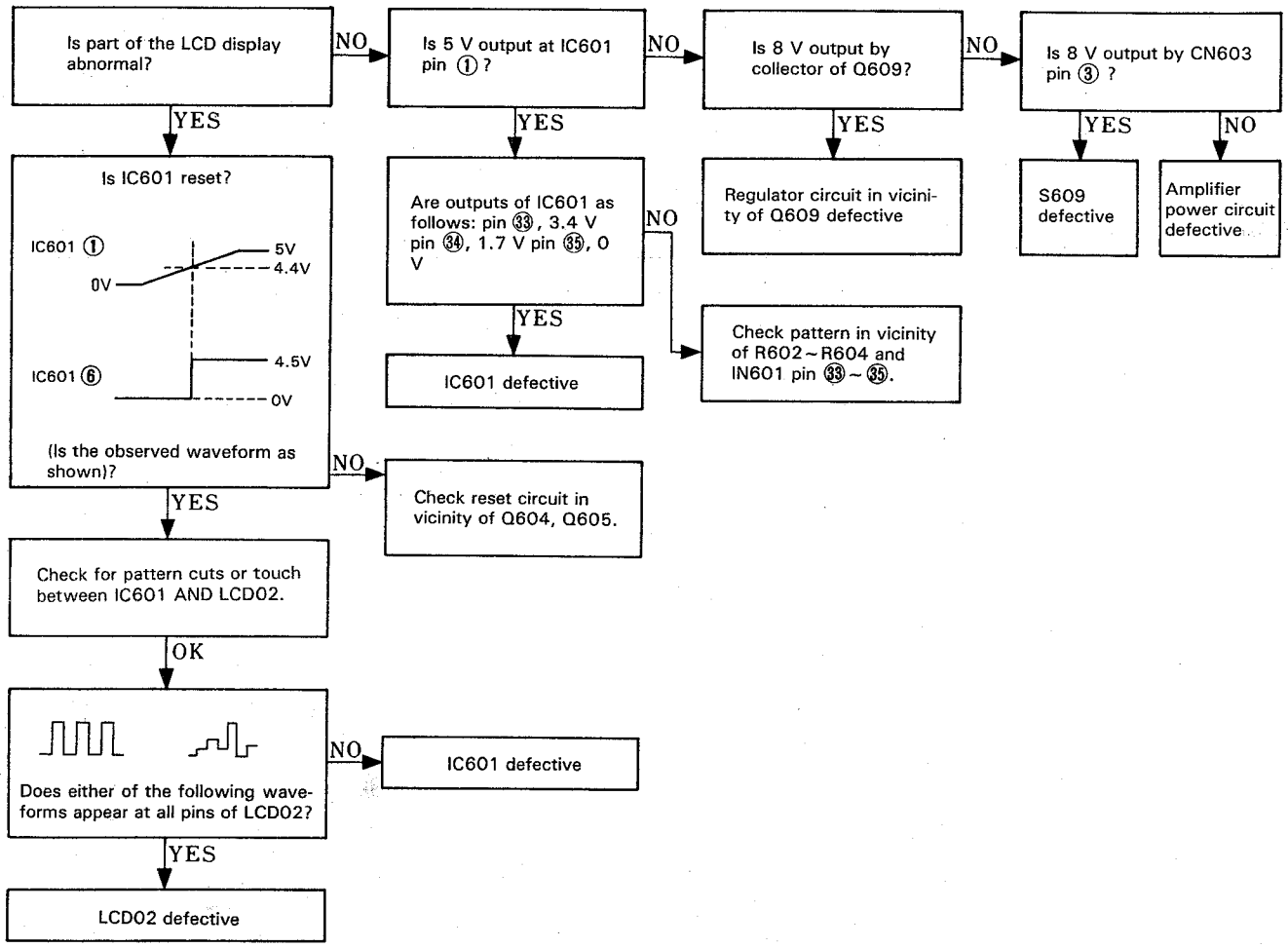


Reference

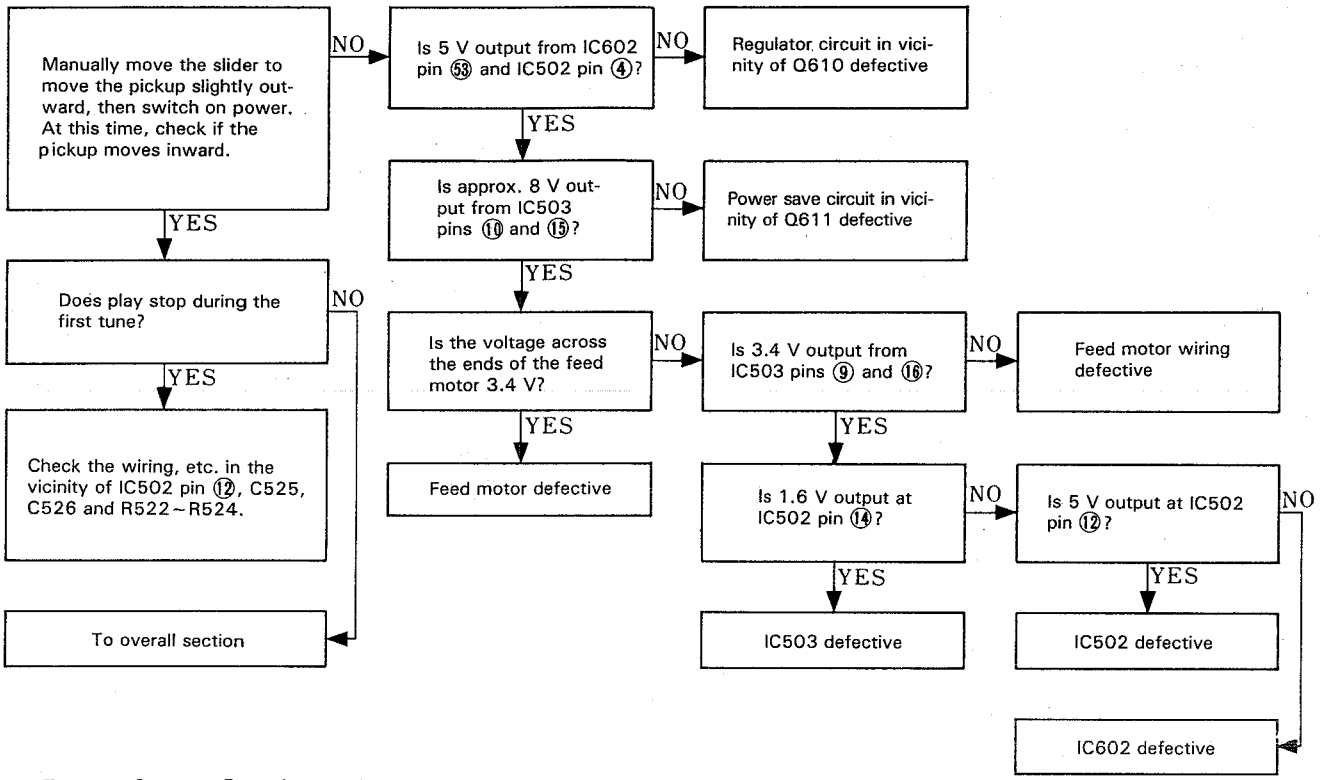
Laser APC circuit

This circuit monitors the output of the laser using the MD in the pickup and controls the standard value of 2~3 mV. at this time, the voltage between CN501 pins 8 and 12 is approx. 0.8 V.

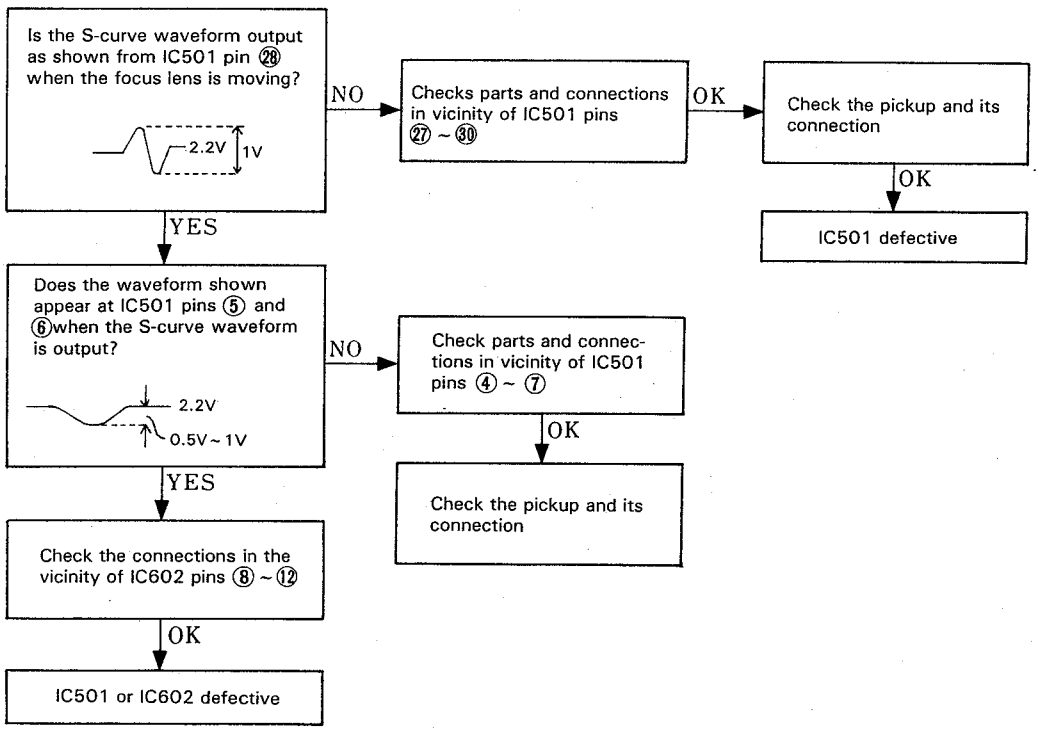
■ CPU Section


Is part of the LCD display abnormal?
NO
Is 5 V output at IC601 pin ① ?
NO
Is 8 V output by collector of Q609?
NO
Is 8 V output by CN603 pin ③ ?
YES
NO
YES
YES
YES
S609 defective
Amplifier power circuit defective
Regulator circuit in vicinity of Q609 defective
Is IC601 reset?
IC601 ①
5V
4.4V
0V
IC601 ⑥
4.5V
0V
(Is the observed waveform as shown)?
Are outputs of IC601 as follows: pin ㉝, 3.4 V pin ㉞, 1.7 V pin ㉟, 0 V
NO
YES
IC601 defective
Check pattern in vicinity of R602 ~ R604 and IN601 pin ㉝ ~ ㉟.
NO
Check reset circuit in vicinity of Q604, Q605.
YES
Check for pattern cuts or touch between IC601 AND LCD02.
OK
Does either of the following waveforms appear at all pins of LCD02?
NO
IC601 defective
YES
LCD02 defective

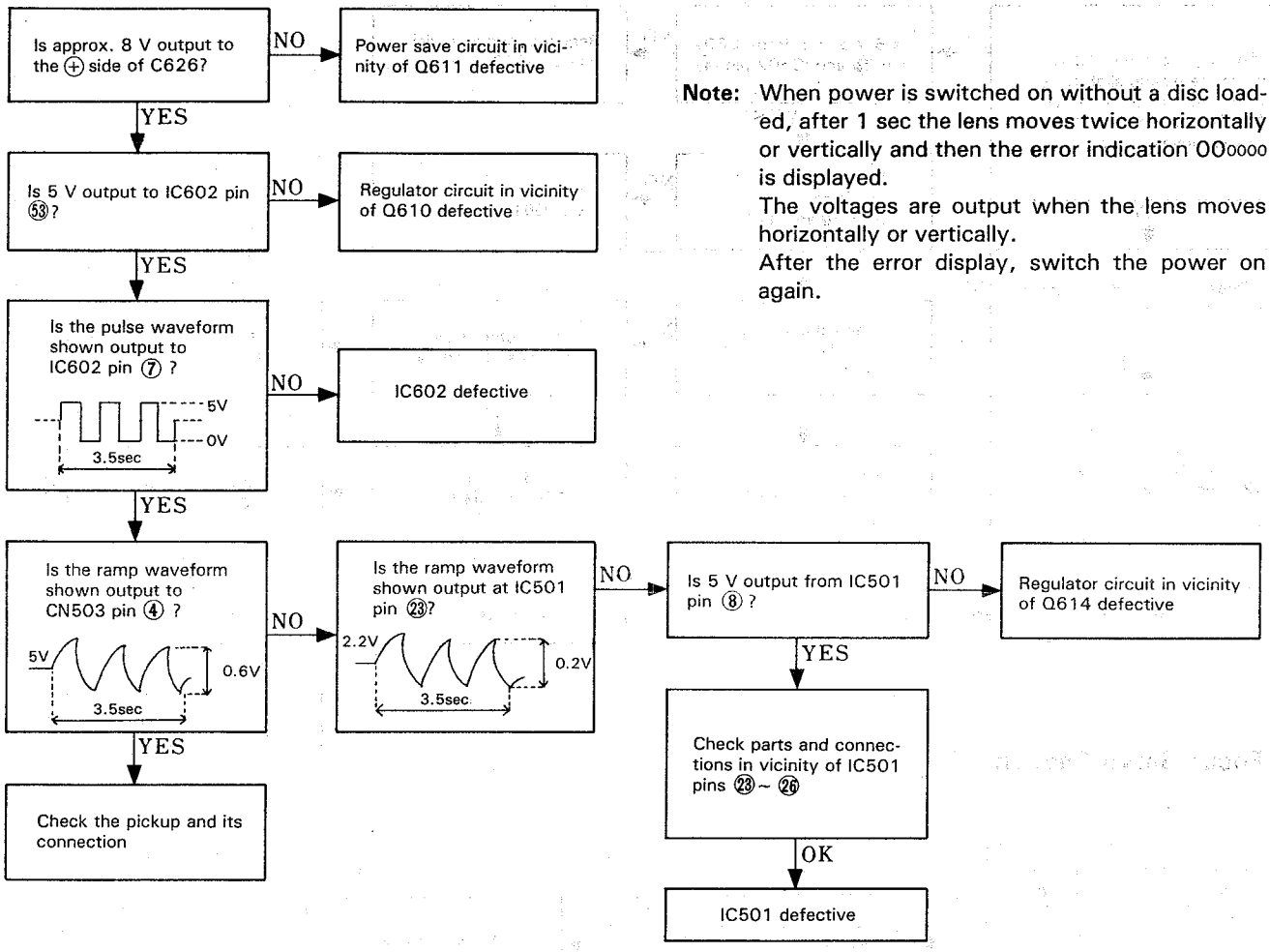
■ Feed Section



■ Focus Servo Section

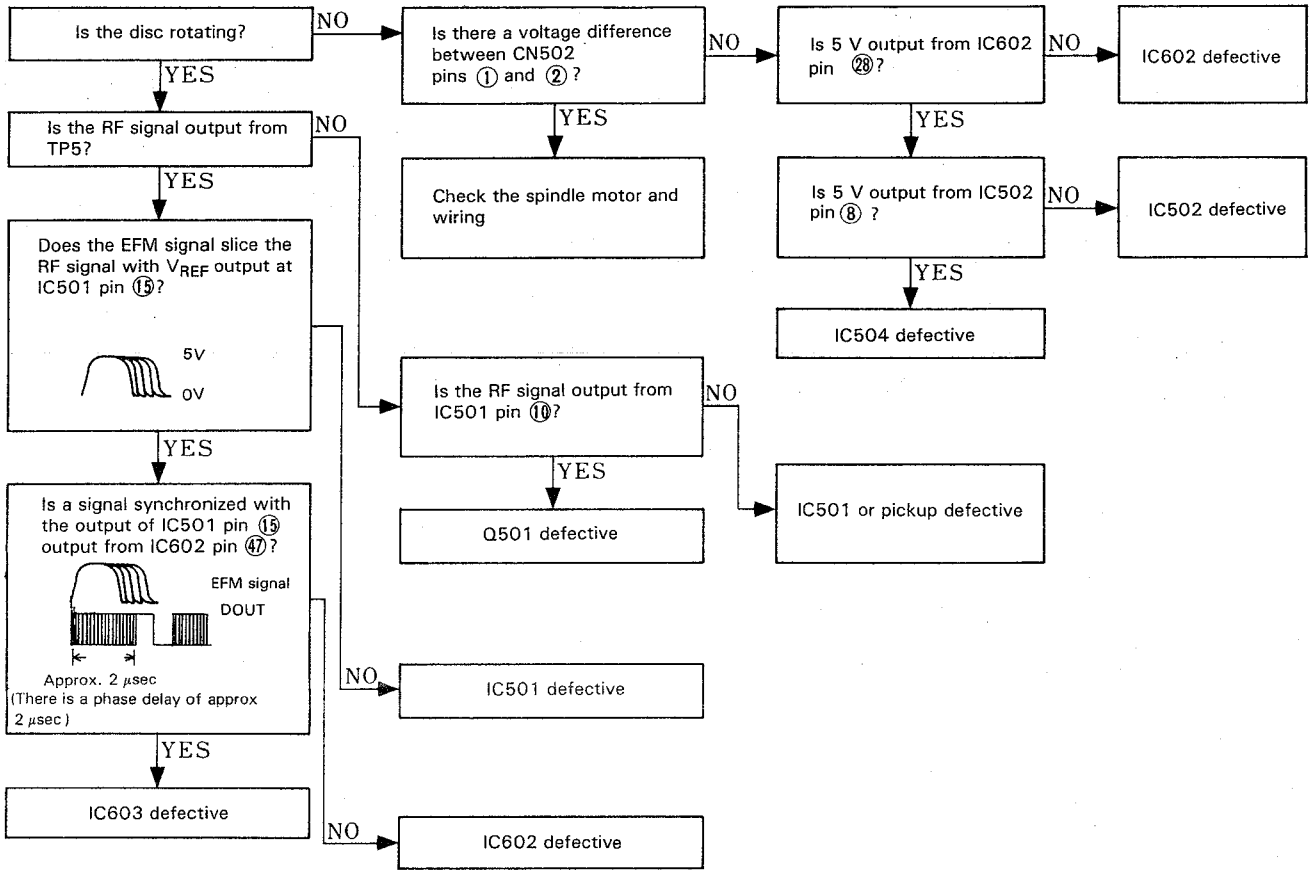


■ Focus Drive Section

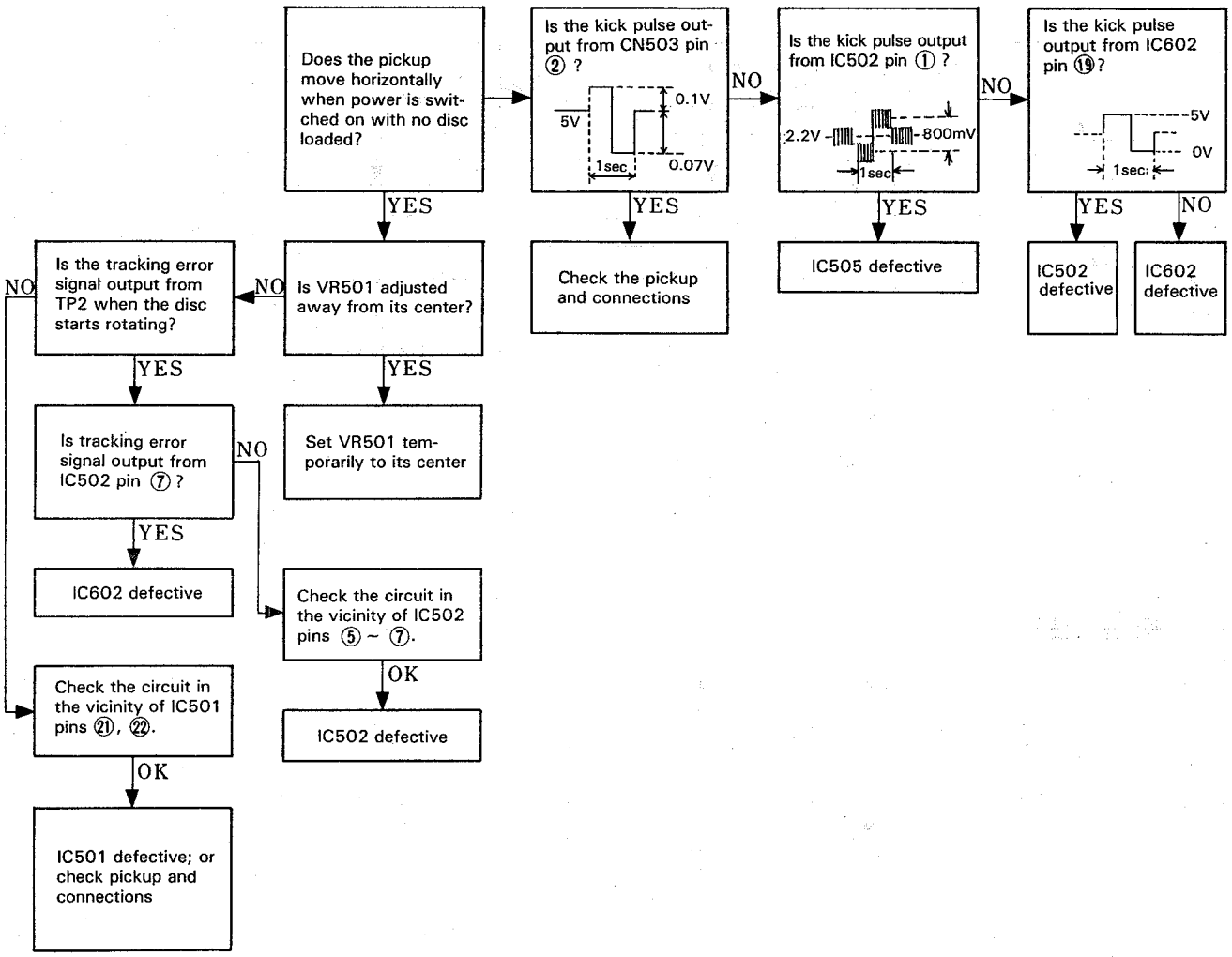


Note: When power is switched on without a disc loaded, after 1 sec the lens moves twice horizontally or vertically and then the error indication 00ₒₒₒₒ is displayed.
The voltages are output when the lens moves horizontally or vertically.
After the error display, switch the power on again.

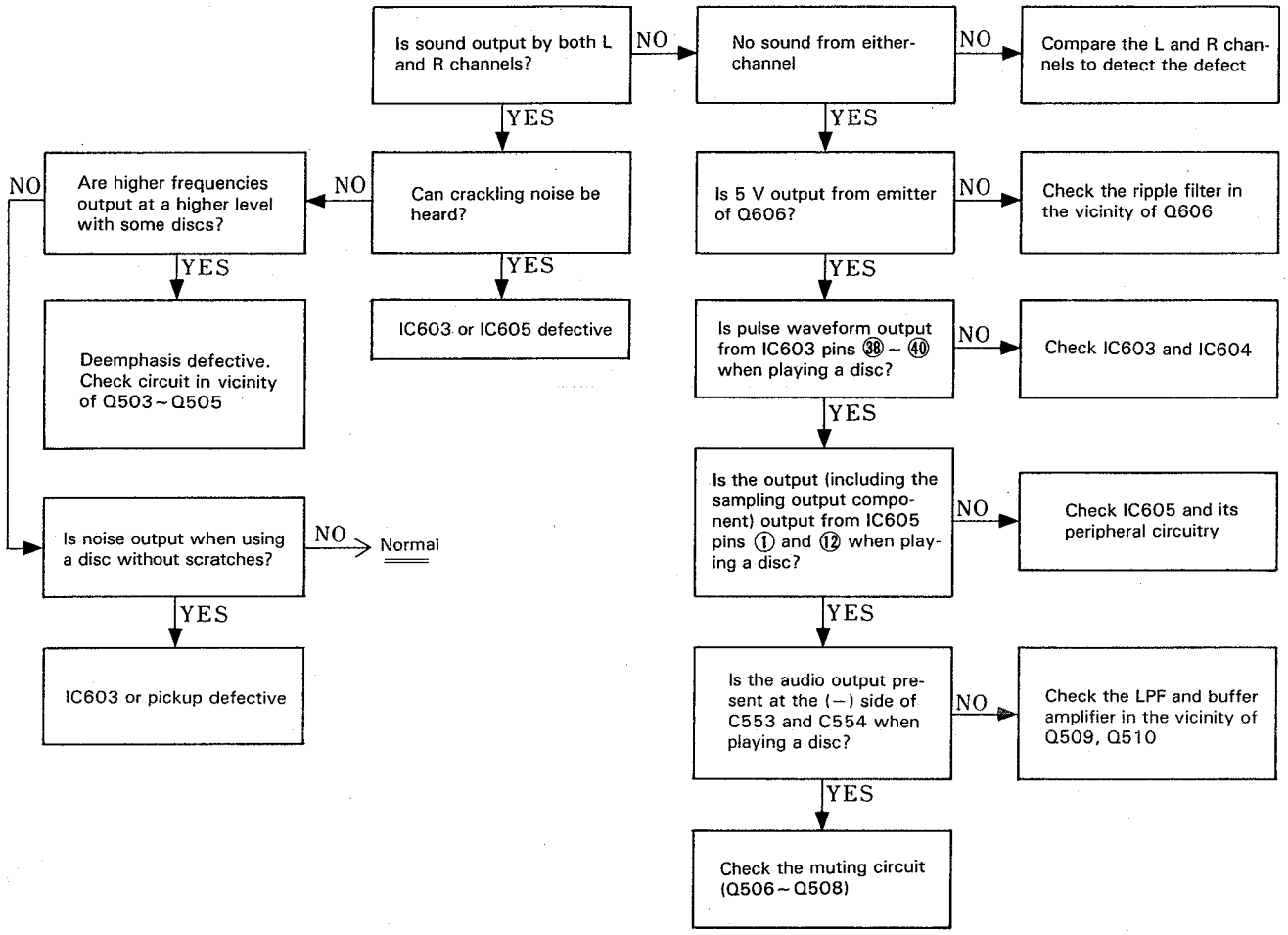
■ Spindle Section



■ Tracking Section

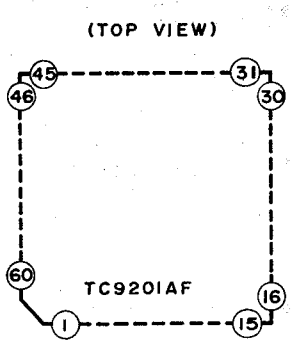


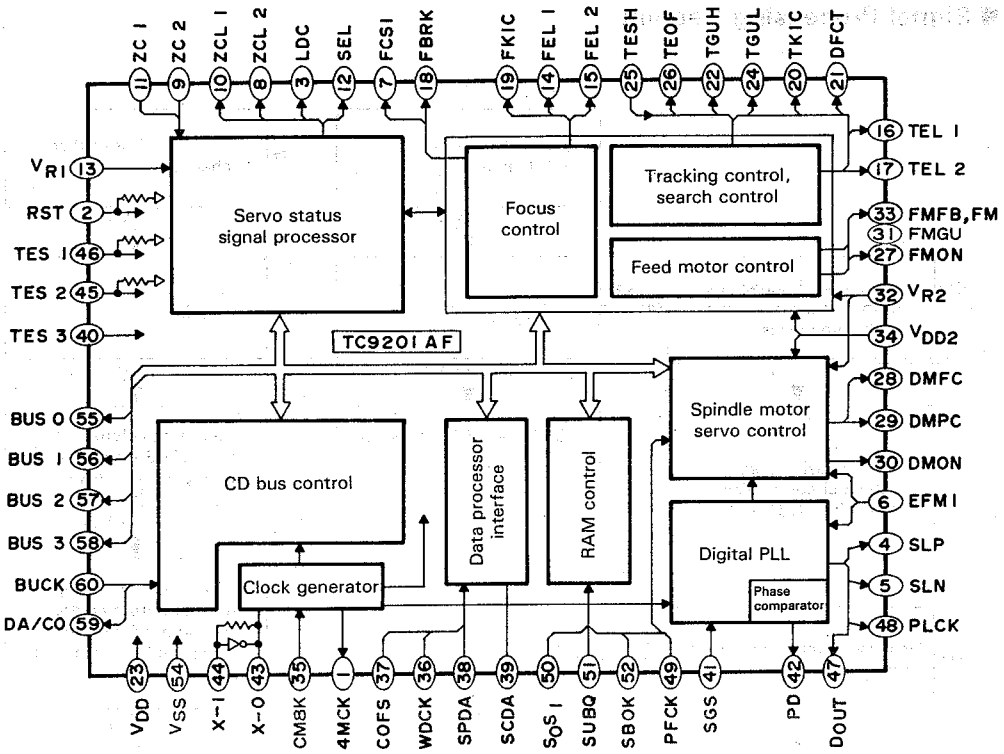
■ Signal Processing Section



IC Block Diagrams and Functions of Pins

TC9201AF



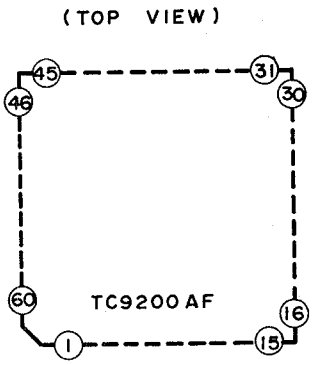


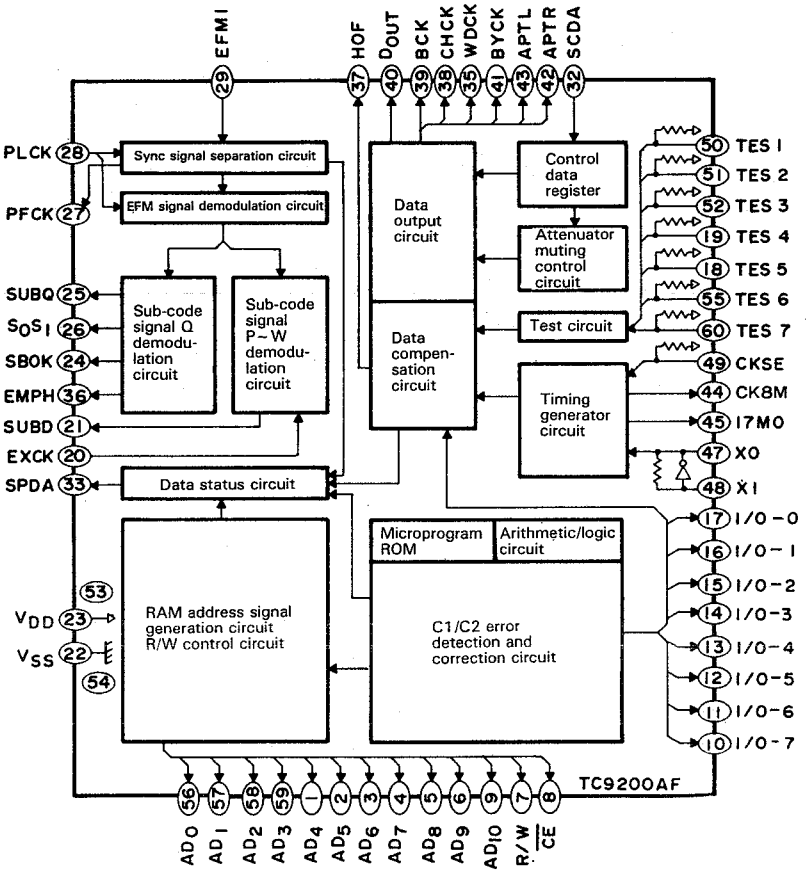
Pin Functions

Pin No.	Symbol	I/O	Description of Functions
1	4 MCK	O	4 MHz clock output pin. f = 4.2336 MHz (X'tal division)
2	RST	I	Reset input pin. Normally H or open. Internal system reset when L.
3	LDC	O	Control signal output pin for laser diode drive circuit
4	SLP	O	EFM signal non-inverting output
5	SLN	O	EFM signal inverting output
6	EFMI	I	EFM signal input
7	FCSI	O	Polarity designating output pin of focus actuator drive signal
8	ZCL2	O	Internal D/A converter output pin 2
9	ZC2	I	Input pin 2 of external comparator output signal
10	ZCL1	O	Internal D/A converter output pin 1
11	ZC1	I	External comparator output signal input pin 1
12	SEL	O	Output of pickup servo mode designation signal
13	VR1	—	Power supply to internal D/A converter. +2.2 V (V_{REF})
14 15	FEL1 FEL2	O	Analog switch output pins for focus gain adjustment
16 17	TEL1 TEL2	O	Analog switch output pins for tracking gain adjustment
18	FBRK	O	Output of focus actuator brake signal
19	FKIC	O	Output of focus actuator drive signal
20	TKIC	O	Output of tracking actuator kick signal
21	DFCT	O	Defect detection pin. Defect in PU output signal detected only during play; electric potential is same as VR2 during the detection period. Normally Hiz.
22	TGUH	O	Analog switch output for middle and high frequency phase compensation switch in tracking servo loop.
23	V_{DD}	—	Power supply
24	TGUL	O	Analog switch output for low frequency gain switch of tracking servo loop

Pin No.	Symbol	I/O	Description of Functions
25	TESH	I	Analog switch input for sample-hold of tracking error signal
26	TEOF	O	Analog switch output for tracking servo operation ON/OFF switching
27	RMON	O	Analog switch output for feed servo operation ON/OFF switching
28	DMFC	O	AFC output for spindle motor CLV servo
29	DMPC	O	APC output for spindle motor CLV servo
30	DMON	O	Analog switch output for gain selector in spindle motor drive circuit
31	FMGU	O	Analog switch output for gain selector in feed servo loop.
32	VR2	—	Reference power supply for pickup servo and spindle servo circuits. +2.2 V (V_{REF})
33	FMFB	O	Control signal output for forward/reverse movement of feed motor
34	V_{DD2}	—	Power supply of pickup servo and spindle servo circuits. 2 × VR2
35	CM8K	I	8 MHz clock input. f=8.4672 MHz (X'tal division)
36	WDCK	I	Clock input pin for control data transmission/reception
37	COFS	I	Input of correction frame period signal. f=7.35 kHz
38	SPDA	I	Status signal serial input
39	SCDA	O	Control data serial output
40	TES3	I	Test pin. Normally L
41	SGS	I	PLL circuit selection pin. Analog PLL circuit at H level, digital PLL circuit at L level
42	PD	O	Phase comparison signal output for PLL
43	X-O	O	X'tal oscillator connectors. When X'tal oscillator is connected, clocks required by system are generated
44	X-I	I	
45	TES2	I	Test pins (with pull-up resistors)
46	TES1		
47	D_{OUT}	O	EFM signal output pin
48	PLCK	O	Bit clock output pin
49	PFCK	I	Input of play frame period signal. SUBQ, SBOK, SOSI are input synchronized with the trailing edge of this signal. Also used as the comparison frequency for AFC and APC in the CLV servo system.
50	S_0S_1	I	Input of sub-code signals. S_0 and S_1 for synchronous pattern
51	SUBQ	I	Sub-code signal Q data input. 80 bits of Q data is treated as one block and is serially input and stored in the internal RAM
52	SBOK	I	Sub-code CRC check judgement result input. H level with no error, L level during error
53	V_{DD}	—	Power supply. +5 V
54	V_{SS}	—	GND
55~58	BUS0~ BUS3	I/O	Command and data transmission/reception bus. Commands and data are input at the leading edge of BUCK. Input data is input to the bus when BUCK is at H level
59	DA/CO	I/O	Command and data processing I/O control pin. Defined to be at L (input) level when the microprocessor transmits the first word of a command. when all commands and data have been received correctly with BUCK at L level, the pin is at L (output) level. Also used for acknowledge (ACK) signal to microprocessor. Normally H.
60	BUCK	I	Clock input for transmission/reception of commands and data. When the microprocessor signal is not received, at H level. During reception, should be at L for 9 μ or more and at H between 4 μ and 90 μ. 4 us after the trailing edge of BUCK, DA/CO and BUS 0~3 are switched over.

TC9200AF



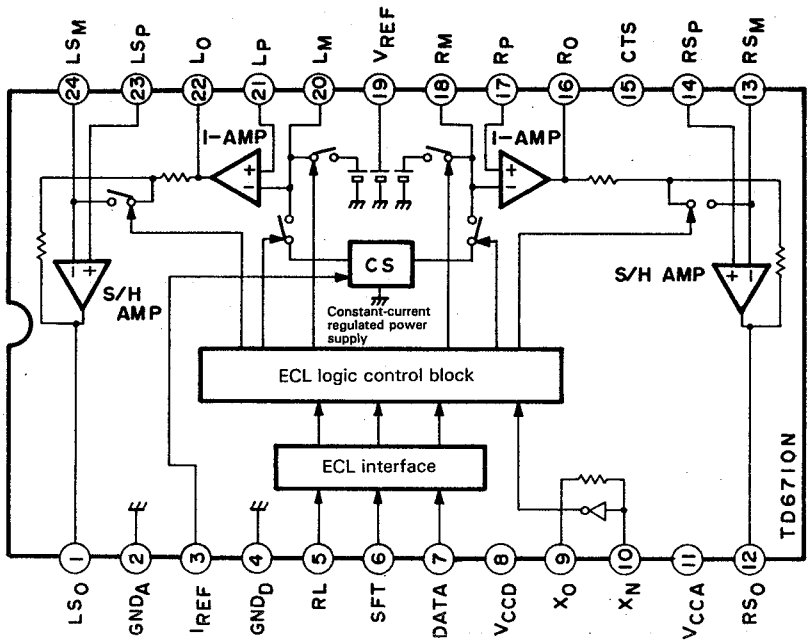


Pin Functions

Pin No.	Symbol	I/O	Description of Functions
56~59 1~ 6 9	AD_0~AD_3 AD_4~AD_9 AD_{10}	O	Addres signal outputs for external RAM (8-bit×2 kword)
7	RW	O	External RAM read/write signal output
8	$\overline{CE}$	O	Chip enable output for external RAM
10~17	I/O~7~ I/O-0	I/O	External RAM data bus
18	TES5	I	Test pins. Normally at H level or open
19	TES4		
20	EXCK	I	Sub-code P—W and S_0+S_1 data readout clock input
21	SUBD	I	Sub-code P—W output. Data is set in the internal register at the trailing edge of PFCK. Data is output serially by inputting EXCK.
22	V_{SS}	—	GND
23	V_{DD}	—	Power supply
24	SBOK	O	Output for CRC check judgement result of sub-code Q data. H level when no error, L level for error. Outputs judgement result of one block before the 80 bits of Q data currently being output
25	SUBQ	O	Sub-code signal Q data output. Q data is output synchronized with the trailing edge of PFCK.
26	S_0S_1	O	Sub-code sync S_0 and S_1 output. When the sub-code sync S_0 or S_1 is detected, H level is output during the frame (synchronized with trailing edge of PFCK)
27	PFCK	O	Play frame period signal output. Duty cycle approx. 50%, f=7.35 kHz

Pin No.	Symbol	I/O	Description of Functions
28	PLCK	I	Clock input for data read The clock is generated in the PLL circuit based on the RF signal picked up from the disc. When the PLL is locked, it is 4.32 MHz with a duty cycle of aprox. 50%.
29	EFMI	I	EFM signal input Input is synchronized with the leading edge of PLCK.
30 31	NC	—	Not connected
32	SCDA	I	Control data serial input Data is input from TC9201AF serially in every frame.
33	SPDA	O	Microprocessor status signal output Data including sync status, judgement results in correction processing, memory buffer capacity, etc. are output serially in frame units.
34	COFS	O	Correction frame sync signal output. f = 7.35 kHz (X'tal division)
35	WDCK	O	Word clock output. BCK clock divided by 16. f = 88.2 kHz, duty cycle = 50%
36	EMPH	O	Emphasis ON/OFF designation signal output Judgement as to whether or not there is emphasis of Q data control bit is output. H level when emphasis ON. Only effective when CRC judgement result is accepted twice in sucession.
37	HOF	O	Output data compensation flag output Flags are given for 8-bit units together with data output; LSB and MSB flags are output in order synchronized with the trailing edge of SYNC. H level when compensation data is output.
38	CHCK	O	Channel clock output WDCK divided by 2; L channel or R channel output is output when at L or H level, respectively. f = 44.1 kHz, duty cycle = 50%.
39	BCK	O	Bit clock output f = 14.112 kHz, duty cycle = 50%
40	DOUT	O	Data output Serial output data is sent from the MSB side, synchronized with the trailing edge of BCK.
41	SYCK	O	Symbol clock output BCK clock divided by 8. f = 176.4 kHz, duty cycle = 50%
42	APTR	O	R channel data aperture signal output
43	APTL	O	L channel data aperture signal output
44	CK8M	O	8 MHz clock output X'tal 16.9344 MHz divided by 2
45	17MO	O	17 MHz clock output X'tal 16.9344 MHz buffer output
46	NC	—	Not connected
47	X-O	O	X'tal oscillator connectors 16.9344 MHz X'tal oscillator connected to generate clocks required by system
48	X-I	I	
49	CKSE	I	Clock selection output Selects 16.9344 MHz clock at H level or open and 8.4672 MHz clock at L level
50	TES1	I	Test pins
51	TES2		
52	TES3		
53	VDD	—	
54	VSS	—	GND
55	TES6	I	Test pins
60	TES7		

TD6710N



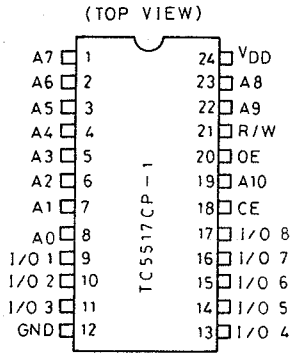
Pin Functions

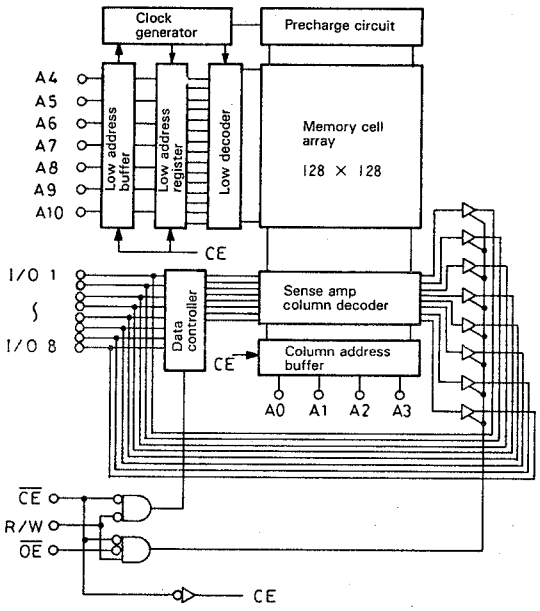
Pin No.	Symbol	Description of Functions
1	LS_O	L channel sample-hold output
2	GND_A	Analog GND
3	I_{REF}	Reference current input Input to determine the constant-current regulated power; 68 kilohms connected between analog grounds
4	GND_D	Digital GND
5	RL	Input data L/R channel designation signal input Used as control signal inside LSI Also required to be input synchronized with trailing edge of SFT f_{RL} = 44.1 kHz, duty cycle = 50%
6	SFT	Shift clock input Clock which reads PCM 16-bit digital audio signals into LSI bit-serially from MSB f_{SFT} = 14.112 MHz, duty cycle = 50%
7	DATA	PCB digital audio data input pin Input bit-serially in 16-bit units from MSB synchronized with trailing edge of SFT. L level = L channel, H level = R channel
8	V_{CCD}	5 V digital power supply
9 10	X_O X_N	Input pins for oscillator circuit
11	V_{CCA}	5 V analog power supply
12	RS_O	R channel sample-hold output
13	RS_M	Op-amp negative input for R channel sample-hold Hold condenser connected between RS_O and RS_M
14	RS_P	Op-amp positive input for R channel sample-hold
15	CTS	Internal constant-current regulated power Decoupling condenser connected between GNDs
16	R_O	Output of R channel integrator
17	R_P	Op-amp positive input for R channel integrator

Pin No.	Symbol	Description of Functions
18	R_M	Op-amp negative input for R channel integrator Integrating condenser connected between R_O and R_M
19	V_{REF}	Integrating reference power voltage Power is generated inside the LSI and supplied to the positive inputs of integrator op-amp; L_P for L channel and R_P for R channel
20	L_M	Op-amp negative input for L channel integrator Integrating condenser connected between L_O and L_M
21	L_P	Op-amp positive input for L channel integrator
22	L_O	L channel integrator output
23	LS_P	Op-amp positive input for L channel sample-hold
24	LSM	Op-amp negative input for L channel sample-hold Hold condenser connected between LS_O and LS_M

IC Block Diagrams

TC5517CP-1





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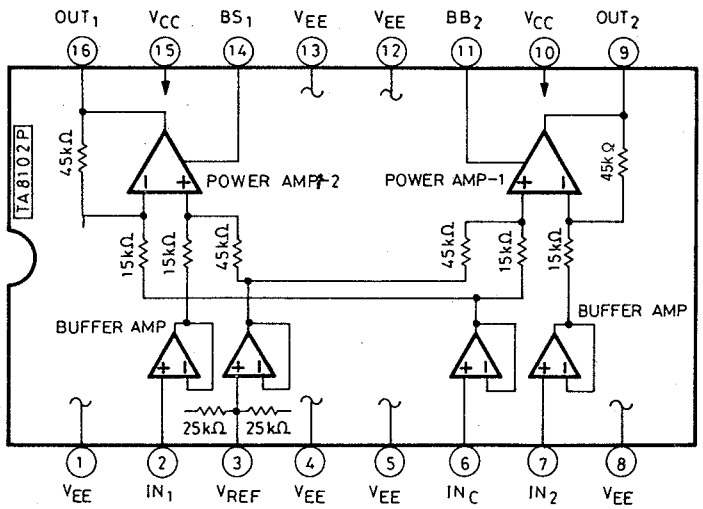
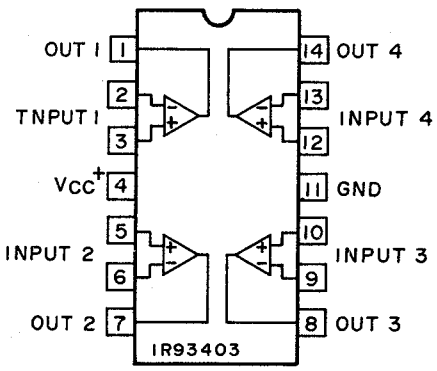
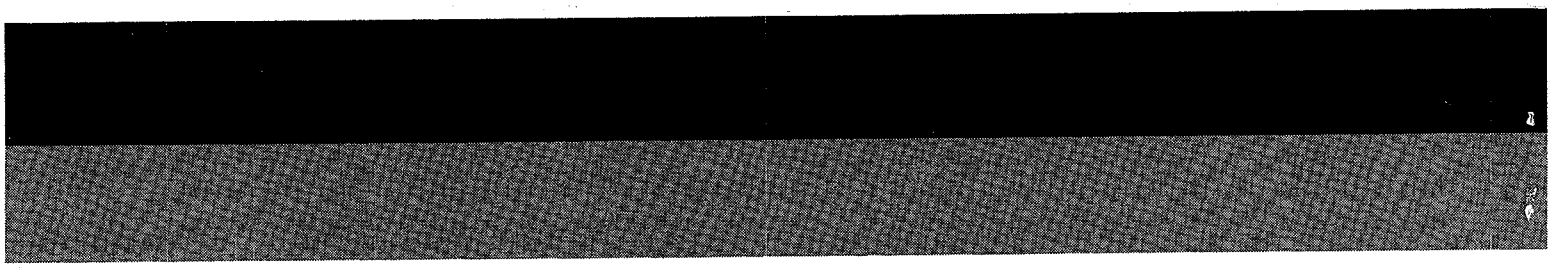


IR93403



PC-V2



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VICTOR COMPANY OF JAPAN, LIMITED
AUDIO PRODUCTS DIVISION MAEBASHI PLANT 10-1, 1-chome, Ohwatari-Machi, Maebashi-city, Japan

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SERVICE MANUAL

CD PORTABLE SYSTEM

PC-V2 J/U

1. The PC-2U model has been added to the previously-released PC-V2J.
2. The CD player that came with the previously-released PC-V2J has been changed.
   - To distinguish the new one from the old, refer to page 3.

Comparison Table

Enclosure Assembly Parts List

Ref. No.	J. Version	U Version	Parts Name
1	VJC1599-001UL	VJC1599-002	Front Cabinet
63	VJD1127-003UL	VJD1127-004	CD Chassis
111	VJC1600-001UL	VJC1600-105	Rear Cabinet
120	VYH6476-001	VYH6476-002	AC Slider
148	VYN7037-001	VYN7037-005	Name Plate
—	———	VND4118-004	Caution Label
151	VND4285-003	———	〃

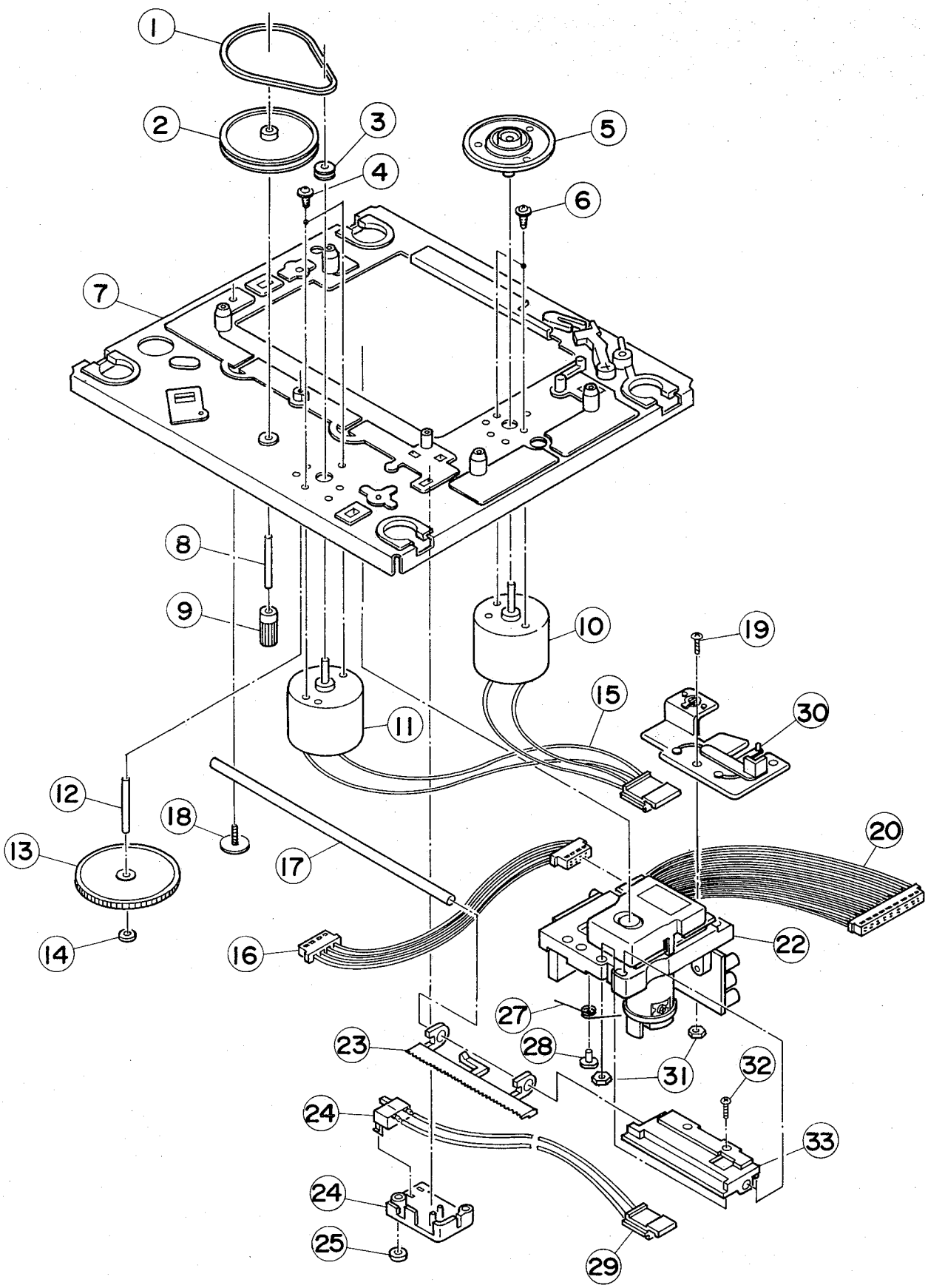
Amplifier Board Parts List

Ref. No.	J. Version	U Version	Parts Name
J701	QMC0361-002	QMC0362-002	AC Socket
J702	———	QMA1221-004	DC. Jack
D702	———	30DL2	Si. Diode

1897

No. 1724
June 198

Exploded View of CD Player



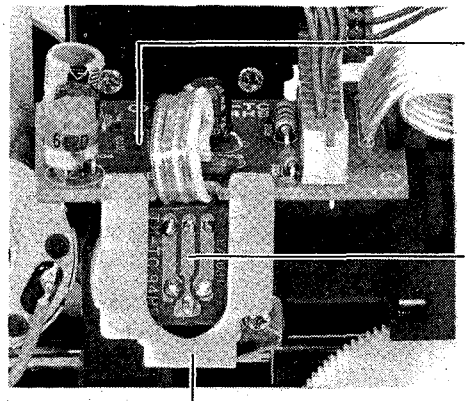
CD Player Component Parts List (Mechanism Ass'y)

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

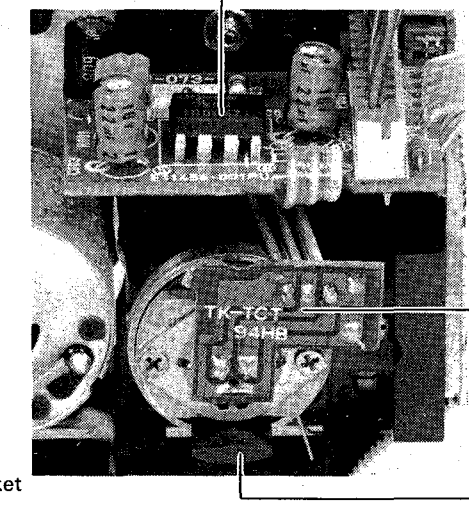
⚠	Ref. No.	Parts Number	Parts Name	Description	Q'ty
	1	E69879-003	Belt		1
	2	E73063-001	Pulley (F)		1
	3	E73060-001	M. Pulley		1
	4	E72963-203	Screw	with Washer	2
	5	E73560-002	Turn Table Ass'y		1
	6	E72963-203	Screw	with Washer	2
	7	E11371-002	Base Ass'y		1
	8	E71731-003	Shaft		1
	9	E73064-002	Feed Gear (A)		1
	10	RF-310T-10470	Motor	for Turn Table	1
	11	RF-310TA-10470	〃	for Laser Pick up Drive	1
	12	E71731-003	Shaft		1
	13	E73700-001	Feed Gear		1
	14	E72024-001	Speed Nut		1
	15	EWS014-127	Wire with Plug		1
	16	EWS254-B106	〃		1
	17	E73066-001	Shaft for Feed		1
	18	E65923-003	Screw	with Washer	1
	19	SPSP2608Z	Screw		1
	20	EWS990-003K	Wire with Plug		1
	22	OPTIMA-3	Laser Pick up Unit		1
	23	E304196-002	Sub Pack Gear		1
	24	QSP2K11-E01	Push Switch		1
	25	E304613-001	Switch Cover		1
	26	E60912-001	Speed Nut		1
	27	E73851-002	Torsion Spring		1
	28	E73987-001	Stopper		1
	29	EWS013-244	Wire with Plug		1
	30	E304439-002	Base Ass'y for Pick up		1
	31	NNS2600Z	Nut		2
	32	SPSP2610M	Screw		1
	33	E25616-002	Rack		1

Refer to the diagram below to distinguish the new and old CD player models.

OLD OPTIMA 2



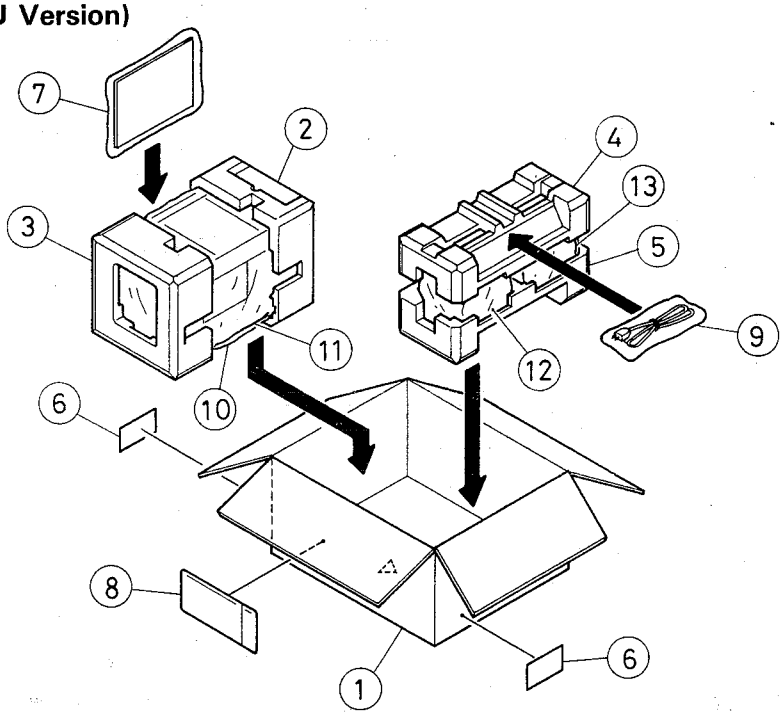
NEW OPTIMA 3



Accessories (U Version)

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	VNN7037-801	Instruction Book		1
	BT20047C	Warranty Card	for PX, EES	1
	V04062-001	Caution Plug		1
	BT20046C	Special Reply Card	for PX, EES	1
	VNC5311-203	Caution Card	for EES	1
	VNC5311-204	〃	for PX	1
	QMP7350-150	Power Cord		1

Packing (U Version)



Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	VPC7037-005	Carton		1
2	VPH1404-003	Cushion	Right, for Receiver	1
3	VPH1404-004	〃	Left, for Receiver	1
4	VPH1405-001	〃	Top, for Speaker	1
5	VPH1405-002	〃	Bottom, for Speaker	1
6	VPZ4001-001	Serial Ticket		2
7	VPE3005-007	Poly Bag	for Instruction Book	1
8	E66416-003	Envelope	for Warranty Card	1
9	QPGA012-02505	Poly Bag	for Power Cord	1
10	VPE3005-026	〃	for Receiver	1
11	VPK4002-016	Sheet	〃	1
12	VPK3005-016	Poly Bag	for Speaker	1
13	VPK4002-016	Sheet	〃	1

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